

2062
20
22
GENERAL LIBRARY
OCT 1 1918
UNIV. OF MICH.

Engineering
Library

PROCEEDINGS

OF THE

AMERICAN SOCIETY

OF

CIVIL ENGINEERS

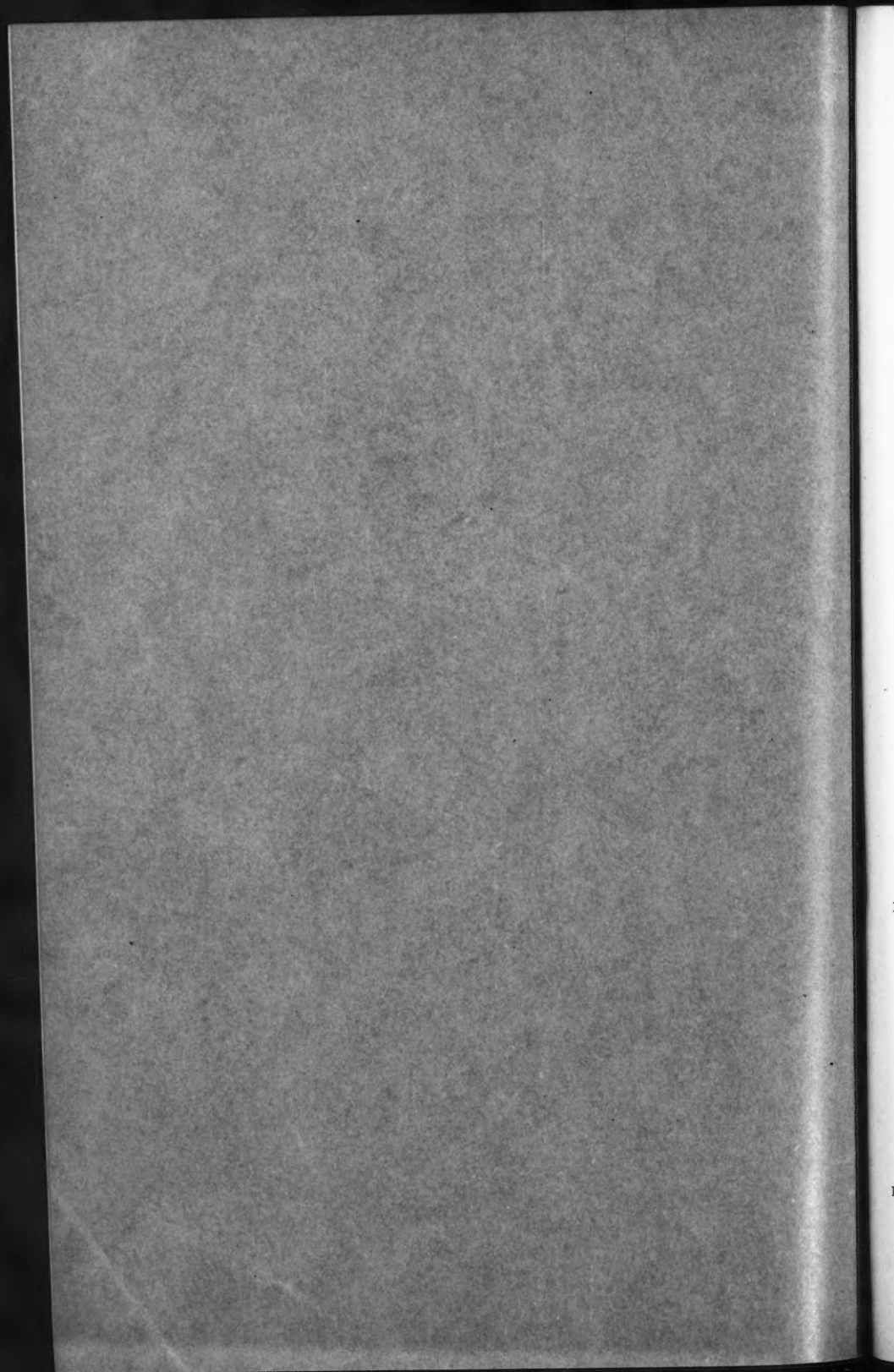
VOL. XLIV—No. 7



September, 1918

Published at the Headquarters of the Society, 33 West Thirty-ninth Street, New York,
the Fourth Wednesday of each Month, except June and July.

Copyrighted 1918, by the American Society of Civil Engineers.
Entered as Second-Class Matter at the New York City Post Office, December 15th, 1896.
Acceptance for mailing at special rate of postage provided for in Section 1103, Act of
October 3d, 1917, authorized on July 5th, 1918.
Subscription, \$8 per annum.



PROCEEDINGS
OF THE
AMERICAN SOCIETY
OF
CIVIL ENGINEERS
(INSTITUTED 1852)

VOL. XLIV—No. 7

SEPTEMBER, 1918

Edited by the Secretary, under the direction of the Committee on Publications.

Reprints from this publication, which is copyrighted, may be made on condition that the full title of Paper, name of Author, page reference, and date of presentation to the Society, are given.

CONTENTS

Society Affairs	Pages 788 to 878.
Papers and Discussions	Pages 927 to 960.

NEW YORK 1918

Entered according to Act of Congress, in the year 1918, by the AMERICAN SOCIETY OF CIVIL ENGINEERS, in the office of the Librarian of Congress, at Washington.

American Society of Civil Engineers

OFFICERS FOR 1918

President, ARTHUR N. TALBOT

Vice-Presidents

Term expires January, 1919: Term expires January, 1920:
GEORGE W. KITTREDGE NELSON P. LEWIS
GEORGE S. WEBSTER JOHN F. COLEMAN

Secretary, CHARLES WARREN HUNT

Treasurer, GEORGE W. TILLSON

Directors

Term expires January, 1919:	Term expires January, 1920:	Term expires January, 1921:
FREDERICK C. NOBLE	ALFRED D. FLINN	EDWIN J. FORT
ALEX. C. HUMPHREYS	LEWIS D. RIGHTS	ANDREW M. HUNT
FREDERIC H. FAY	*—	SAMUEL T. WAGNER
RICHARD KHUEN, Jr.	ARTHUR P. DAVIS	EDWARD E. WALL
JOHN W. ALVORD	W. L. DARLING	MILO S. KETCHUM
EDWIN DURYEA	R. H. THOMSON	HARRY HAWGOOD

Past-Presidents, Members of the Board:

HUNTER McDONALD	GEORGE F. SWAIN	CLEMENS HERSCHEL
CHARLES D. MARX		GEORGE H. PEGRAM

Assistant Secretary, T. J. MCMINN

Standing Committees

(THE PRESIDENT OF THE SOCIETY IS *ex officio* MEMBER OF ALL COMMITTEES)

On Finance:	On Publications:	On Library:
GEORGE W. KITTREDGE	LEWIS D. RIGHTS	ALFRED D. FLINN
ALEX. C. HUMPHREYS	FREDERICK C. NOBLE	LEWIS D. RIGHTS
GEORGE S. WEBSTER	ANDREW M. HUNT	SAMUEL T. WAGNER
FREDERIC H. FAY	JOHN F. COLEMAN	RICHARD KHUEN, Jr.
NELSON P. LEWIS	MILO S. KETCHUM	CHAS. WARREN HUNT
	On Special Committees:	
	JOHN W. ALVORD	
	GEORGE W. TILLSON	
	EDWIN DURYEA	

Special Committees

ON ENGINEERING EDUCATION: Desmond FitzGerald, Onward Bates, D. W. Mead.
TO CODIFY PRESENT PRACTICE ON THE BEARING VALUE OF SOILS FOR FOUNDATIONS, ETC.: Robert A. Cummings, Edwin Duryea, E. G. Haines, Allen Hazen, James C. Meem, Walter J. Douglas.
ON THE REGULATION OF WATER RIGHTS: F. H. Newell, W. C. Hoad, John H. Lewis.
TO REPORT ON STRESSES IN RAILROAD TRACK: A. N. Talbot, A. S. Baldwin, G. H. Bremner, John Brunner, W. J. Burton, Charles S. Churchill, W. C. Cushing, Robert W. Hunt, George W. Kittredge, Paul M. LaBach, C. G. E. Larsson, G. J. Ray, Albert F. Reichmann, H. R. Safford, F. E. Turneure, J. E. Willoughby.

The Reading Room of the Society is open from 9 A. M. to 10 P. M. every day, except Sundays, Fourth of July, Thanksgiving Day, and Christmas Day.

HEADQUARTERS OF THE SOCIETY—33 WEST THIRTY-NINTH STREET, NEW YORK.

TELEPHONE NUMBER.....4600 Vanderbilt.
CABLE ADDRESS....."Ceas, New York."

* Director William R. Hill died June 16th, 1918.

AMERICAN SOCIETY OF CIVIL ENGINEERS

INSTITUTED 1852

PROCEEDINGS

This Society is not responsible for any statement made or opinion expressed
in its publications.

SOCIETY AFFAIRS

CONTENTS

Minutes of Meetings:	PAGE
Of the Society, September 4th, 1918.....	783
Elections and Transfers by the Board of Direction, September 10th, 1918.....	785
Of the Board of Direction, September 10th, 1918.....	788
Announcements:	
Hours during which the Reading Room is open.....	789
Future Meetings.....	789
Searches in the Library.....	789
Papers and Discussions.....	790
Local Associations of Members of the American Society of Civil Engineers.....	790
Privileges of Engineering Societies Extended to Members.....	796
Accessions to the Engineering Societies Library.....	799
Roll of Honor.....	803
Membership (Additions, Changes of Address, Deaths).....	844
Recent Engineering Articles of Interest.....	855

MINUTES OF MEETINGS

OF THE SOCIETY

September 4th, 1918.—The meeting was called to order at 8.30 p. m.; Vice-President Kittredge in the chair; Chas. Warren Hunt, Secretary; and present, also, 215 members and 40 guests.

The minutes of the meetings of May 15th and June 5th, 1918, were approved as printed in *Proceedings* for August, 1918.

J. de B. W. Gardiner, Assoc. M. Am. Soc. C. E., formerly an officer in the United States Army, and at present Military Expert for *The New York Times*, addressed the meeting on "The Military Operations of 1918", illustrating his remarks with lantern slides.

The Secretary announced that the Board of Direction, at its meeting of April 16th, 1918, had adopted the following resolutions:

Resolved: That regular business meetings of the Society be held, as required by the Constitution, on the first Wednesday of each month

except during July and August, and that at these meetings, in addition to the regular business, professional papers previously published shall be presented for discussion.

"Resolved: That, at the meetings held on the third Wednesday of the month, the programme of papers, addresses, or discussions, shall be placed in the hands of a Committee of seven resident members to be appointed by the Executive Committee and to be known as the New York Meetings Committee, this Committee to be charged with the entire responsibility for the conduct of these meetings."

In conformity with these resolutions, the Executive Committee has appointed the following committee:

CLIFFORD M. HOLLAND, *Chairman*,
J. B. FRENCH,
ARTHUR W. TIDD,
J. O. ECKERSLEY,
E. N. LAYFIELD,
E. B. BESSELEVRE,
CHARLES GILMAN.

Paul G. Brown, M. Am. Soc. C. E., addressed the meeting briefly on the subject of reconstruction after the war, and Robert Ridgway, M. Am. Soc. C. E., offered the following resolution:

"Resolved: That this meeting is of the opinion that the Board of Direction should provide for a committee whose functions shall be to keep itself and the Board informed of any Governmental or other programme looking to the reconstruction or rehabilitation, after the war, of the engineering resources of the country, and to advise the Board of such action as it should take in the premises (from time to time) to the end that such resources may be conserved."

On motion, duly seconded, the resolution was carried.

The Secretary announced the following deaths:

CALVIN HARLOW ALLEN, of New York City, elected Member, September 7th, 1887; died July 14th, 1918.

HOWARD LINCOLN COBURN, of New York City, elected Member, March 5th, 1912; died June 19th, 1918.

WILLIAM RYAN HILL (*Director*), of Albany, N. Y., elected Member, July 1st, 1891; died June 16th, 1918.

CHARLES ARTHUR LINDBERY, Capt., Engr. R. C., of Camp Laurel, Md., elected Member, October 1st, 1913; died at Camp Lee, Va.; date of death unknown.

ROBERT EMMET McMATH, of St. Louis, Mo., elected Member, March 3d, 1880; date of death unknown.

EDGAR MARBURG, of Philadelphia, Pa., elected Member, October 6th, 1897; died June 27th, 1918.

AUGUSTUS MORDECAI, of Cleveland, Ohio, elected Member, February 1st, 1893; died July 28th, 1918.

JOHN WARREN SACKETT, of Jacksonville, Fla., elected Member, May 2d, 1894; died July 3d, 1918.

ARNOLD HENRY SUTERMEISTER, of Albany, N. Y., elected Member, June 3d, 1902; died June 29th, 1918.

BERNARD MATTHEW WAGNER, of Brooklyn, N. Y., elected Associate Member, May 3d, 1899; Member, December 1st, 1903; died June 8th, 1918.

LESLIE ABRAM WATERBURY, of Nitro, W. Va., elected Associate, November 7th, 1906; Associate Member, June 30th, 1910; Member, September 3d, 1913; died June 15th, 1918.

FREDERICK WILLIAM WATKINS, of New York City, elected Member, October 3d, 1883; died August 20th, 1918.

ROBERT STUART ARMSTRONG, of New York City, elected Associate Member, February 6th, 1907; died July 15th, 1918.

WILLIAM BLAIR BOVVER, of San Francisco, Cal., elected Junior, October 1st, 1913; Associate Member, September 12th, 1916; died July 20th, 1918.

JOHN BONAVENTURE MURRAY, of New York City, elected Associate Member, September 6th, 1910; died August 10th, 1918.

RUTLEDGE IRVING ODELL, of Tomkins Cove, N. Y., elected Associate, October 1st, 1895; died March 25th, 1918.

Adjourned.

ELECTIONS AND TRANSFERS BY THE BOARD OF DIRECTION

SEPTEMBER 10th, 1918.

ELECTED AS MEMBERS

HORACE PRENTISS BOARDMAN, Nitro, W. Va.

WILLIAM GOEDECKE, New York City

CLAIR ALLEN INSKEEP, Bellefontaine, Ohio

HOWARD FAY PASSEL, Indianapolis, Ind.

THEODORE HOBART SKINNER, Muscle Shoals, Ala.

HARRY MATTHEW STEWARD, Boston, Mass.

EDWARD AHLERT STUHRMAN, Atlanta, Ga.

ERNEST WILLIAM TAYLOR, Cleveland, Ohio

BENJAMIN FRANKLIN TILLSON, Franklin, N. J.

ROSWELL DELMEGE TRIMBLE, Richmond, Va.

ELECTED AS ASSOCIATE MEMBERS

KENNETH BLISS ALLEN, Dayton, Ohio

CHARLES CHAMBERS ARMSTRONG, Newark, N. J.

THOMAS SNEED BYRNE, Sheffield, Ala.

GEORGE WALLIS CARR, JR., West Palm Beach, Fla.
DANIEL WARWICK COLHOUN, Am. Exp. Forces, France
JOHN FREDERICK WILLIAM CRONEMEYER, Badin, N. C.
WILLIAM HENRY CROSSON, 2d Bn., 20th Engrs., France
NORMAN ENGLE DAVIS, Glens Falls, N. Y.
JUAN ISIDORE DEJONGH, Guatemala City, Guatemala
RAYMOND ROWE EAGLE, New Berne, N. C.
ARTHUR DONALD EDMONSTON, Camp Lee, Va.
CLIFFORD ROBERT FULTON, Lincoln, Nebr.
JOSÉ ANTONIO GÓMEZ GAULT, Quito, Ecuador
ROY FRANK HALL, Utica, N. Y.
JOHN ALLAN HARRINGTON, Milwaukee, Wis.
JAMES CAROTHERS HARVEY, Los Lunas, N. Mex.
CHARLES GOTTLÖB HOERNER, JR., Phenicia, N. Y.
JOHN GEORGE HOLLMAN, New Orleans, La.
RALPH WARREN HORNE, Malden, Mass.
SIDNEY MERRILL HOYT, Kansas City, Mo.
HARRY ABE HYMAN, New York City
JAMES NORMAN IRVING, Los Angeles, Cal.
SIGURD STEEN JOHNSEN, Havana, Cuba.
ALFRED LAWRENCE KEHOE, JR., New York City
LOUIS JOHN KILLION, Boston, Mass.
WILLIAM CARLTON McNAUGHTON, West Englewood, N. J.
MARTIN JOHN McPIKE, Brooklyn, N. Y.
CHAUNCEY ARTHUR PIERCE, Brooklyn, N. Y.
WILLIAM REECE PLEW, Bozeman, Mont.
ELWIN HARRIS QUINNEY, Pierre, S. Dak.
CHARLES ALLEY REED, Oakland, Cal.
RALPH ALEXANDER ROLLO, Murphysboro, Ill.
LOYD MCCREIGHT ROSS, Charlotte, N. C.
JOHN MARVIN RYDER, Schenectady, N. Y.
CARROLL CRAWFORD SPRIGG, New York City
EDWIN QUINBY SULLIVAN, Red Bluff, Cal.
CLEOPHUS SWECKER, Century, W. Va.
PAO-TUNG TONG, Shanghai, China
FRANK ANTON TRACK, Raymond, Wash.
WALTHER JOHN WEFEL, Cleveland, Ohio
WALTER MELVIN WELLS, San Francisco, Cal.
DONALD WITTEN, Kansas City, Mo.
JESSE JOHN WOLTMANN, Washington, D. C.

ELECTED AS ASSOCIATE

ALFRED DAYBILL, New York City

ELECTED AS JUNIORS

ALEJO AQUINO Y ANGELES, Capiz, Philippine Islands

INGLE BARR, Pensacola, Fla.

LEO FRANCIS BROWN, Brooklyn, N. Y.

PHILIP GILSTRAP BRUTON, Vancouver Barracks, Wash.

ARTHUR SACKETT BUTTERWORTH, Waterloo, Iowa

FRANKLIN HARTER CRADDOCK, Camp Eustis, Va.

CHARLES CUNLIFF, Jr., St. Louis, Mo.

RUSSELL ALGER DODGE, Ann Arbor, Mich.

FRANCIS AUSTIN GERIG, Walnut Ridge, Ark.

JOHN FRANCIS HARDECKER, Philadelphia, Pa.

GEORGE WILSON MALONE, Camp Kearney, Cal.

JAMES BRUCE O'BRIEN, Oriente, Cuba

MARSHALL WOOLLEY PICKEN, New York City

THOMAS COLYER RICHARDSON, Vicksburg, Miss.

WILLIAM DAVIS SHIPMAN, Pittsburgh, Pa.

ROBERT FARQUHAR WATT, Detroit, Mich.

NORMAN KENNETH WILSON, London, England

TRANSFERRED FROM JUNIOR TO ASSOCIATE MEMBER

ANDREW LEWIS ACKHART, Buffalo, N. Y.

ARTHUR JEROME BARZAGHI, Washington, D. C.

NATHANIEL WARREN GREEN, Key West, Fla.

HAROLD FISKE HOLLEY, Carson City, Nev.

THOMAS RICHARD KING, Reno, Nev.

ARTHUR KRAUS, Brooklyn, Navy Yard

JOHN ROBERT O'DONNELL, Brooklyn, N. Y.

JOHN NATHANIEL OLSON, Galveston, Tex.

LEO FRANCIS REYNOLDS, St. Joseph, Mo.

CARL EDWARD SANDSTEDT, Riverside, Cal.

ROMNEY LEIGH VAUGHN, Oakland, Cal.

TRANSFERRED FROM ASSOCIATE MEMBER TO MEMBER

GEORGE HERBERT BILES, Harrisburg, Pa.

DELMAR SMITH CLINTON, Washington, D. C.

ARTHUR EDWARD CLARK, New York City

VERNON MILTON EAGER, Washington, D. C.

AYMAR EMBURY, 2d, Am. Exp. Forces, France

JAMES MOORE FARRIN, Chicago, Ill.

RUSSELL VERSTILLE GLENN, Fort Worth, Tex.

PHILIP BROCKETT HILL, Little Rock, Ark.

CHARLES REA MOORE, Valley, Wash.

GONZALO CLAUDIO MUNOZ, Washington, D. C.

HENRY LESTER NEWHALL, Akron, Ohio

WALLACE CROMWELL ALLEN PALMER, Iloilo, P. I.

JOHN PRINCE HAZEN PERRY, New York City

FRED ELMER RIGHTOR, Austin, Tex.

FRANK SEARS SENIOR, Am. Exp. Forces, France.

WILLIAM EDWARD THOMAS, Charlotte, N. C.

MARTIN WILHELM TORKELSON, Madison, Wis.

CONSTANTINE BORISSON VOYNOW, Philadelphia, Pa.

ERNST VICTOR WILLARD, St. Paul, Minn.

OF THE BOARD OF DIRECTION

(Abstract)

September 10th, 1918.—The Board met at 10.40 P. M., immediately after the adjournment of the Membership Committee; Director Alex. C. Humphreys in the chair; Chas. Warren Hunt, Secretary; and present, also, Messrs. Fay, Noble, and Pegram.

Ballots for membership were canvassed, resulting in the election of 10 Members, 43 Associate Members, 1 Associate, and 17 Juniors and the transfer of 11 Juniors to the grade of Associate Member.

Nineteen Associate Members were transferred to the grade of Member.

A Report from the Membership Committee was received and acted upon.

Adjourned.

ANNOUNCEMENTS

The Reading Room of the Society is open from 9 A. M. to 10 P. M., every day, except Sundays, Fourth of July, Thanksgiving Day, and Christmas Day.

FUTURE MEETINGS

October 2d and 16th, 1918.—8.30 P. M.—Meetings will be held on these evenings as usual, and announcement of the speakers and subjects will be made later.

SEARCHES IN THE LIBRARY

In January, 1902, the Secretary was authorized to make searches in the Library, upon request, and to charge therefor the actual cost to the Society for the extra work required. Since that time many searches have been made, and bibliographies and other information on special subjects furnished.

The resulting satisfaction to the members who have made use of the resources of the Society in this manner has been expressed frequently, and leaves little doubt that if it were generally known to engineers that such assistance could be had, many would avail themselves of it.

On October 1st, 1916, the Library of the American Society of Civil Engineers ceased to exist as such, and was merged in the Engineering Societies Library, adding 67 000 volumes to the collection, which comprises also the former libraries of the American Institute of Mining Engineers, the American Society of Mechanical Engineers, and the American Institute of Electrical Engineers, and now has a total of 133 000 volumes and pamphlets. Containing, as the Library now does, the special collections mentioned, its scope is broadened, and, as it receives an unusually large number of technical periodicals, it is well equipped to continue the service formerly rendered by the Society Library.

The Engineering Societies Library offers this service at a cost which is trifling compared with the value of the time of an engineer who personally looks up such matters, and the work can be performed quite as well, and much more quickly, by persons familiar with the Library.

In asking that such work be undertaken, members should specify clearly the subject to be covered, and whether references to general books only are desired, or whether a complete bibliography, involving search through periodical literature, is desired.

It sometimes happens that references are found which are not readily accessible to the person for whom the search is made. In that case the Library is prepared to furnish photographic copies of

the material at a small price per page. This method is particularly useful when there are drawings or figures in the text, which would be very expensive to reproduce by hand.

The Library is also able to provide translations of articles in foreign languages when desired.

Requests for searches, copies, translations, etc., should be addressed to the Director, Engineering Societies Library, 29 West 39th Street, New York City, who will gladly give information concerning the charges for the various kinds of service.

PAPERS AND DISCUSSIONS

Members and others who take part in the oral discussions of the papers presented are urged to revise their remarks promptly. Written communications from those who cannot attend the meetings should be sent in at the earliest possible date after the issue of a paper in *Proceedings*.

All papers accepted by the Publication Committee are classified by the Committee with respect to their availability for discussion at meetings.

Papers which, from their general nature, appear to be of a character suitable for oral discussion will be published as heretofore in *Proceedings*, and set down for presentation to a future meeting of the Society, and, on these, oral discussions, as well as written communications, will be solicited.

All papers which do not come under this heading, that is to say, those which from their mathematical or technical nature, in the opinion of the Committee, are not adapted to oral discussion, will not be scheduled for presentation to any meeting. Such papers will be published in *Proceedings* in the same manner as those which are to be presented at meetings, but written discussions only will be requested for subsequent publication in *Proceedings* and with the paper in the volumes of *Transactions*.

The Board of Direction has adopted rules for the preparation and presentation of papers, which will be found on page 35 of the Year Book for 1918.

LOCAL ASSOCIATIONS OF MEMBERS OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS

San Francisco Association, Organized 1905.

Jerome Newman, President; Nathan A. Bowers, Secretary-Treasurer, 502 Rialto Building, San Francisco, Cal.

The San Francisco Association of Members of the American Society of Civil Engineers holds regular bi-monthly meetings, with banquet, and weekly informal luncheons. The former are held at 6 P. M., at the Palace Hotel, on the third Tuesday of February, April, June, August,

October, and December, the last being the Annual Meeting of the Association.

Informal luncheons are held at noon, every Wednesday, at the Engineers' Club, 57 Post Street, where special tables are reserved for members and guests of the Association.

The by-laws of the Association provide for the extension of hospitality to any member of the Society who may be temporarily in San Francisco, and any such member will be gladly welcomed as a guest.

(Abstract of Minutes of Meeting)

July 23d, 1918.—A special meeting was called to order at the Engineers' Club at 6.40 p. m.; President Newman in the chair; Nathan A. Bowers, Secretary; and present, also, 18 members.

The purpose of the meeting was to consider whether the Association would send a representative to the conference on the revision of the Constitution of the Society, which had been suggested by the Southern California Association, such conference to be held at Salt Lake City, Utah, on August 6th, 1918.

The resolution providing for a Committee on Development of the American Society of Civil Engineers, adopted by the Board of Direction on July 18th, 1918, was summarized and explained by President Newman.

A communication from the Southern California Association was read, in which it was suggested that each of the ten Associations in the four Western Districts send a delegate (who, later, would represent his respective Association at the meeting of the Development Committee), to a conference to be held on August 6th, 1918, at Salt Lake City, Utah. The purpose of such conference was explained as being for a general discussion of the important features of such Development Committee, in order to pool ideas on the subject for all parts of the West, the delegates to report to their respective Associations and thus avoid a duplication of time and effort and make for a broader understanding of what was desired and what would be done by the Committee. The question was discussed by Messrs. Marx, Kibbe, Grunsky, Flinn, White, Vensano, Binkley, Huber, Duryea, Newman, and Bowers.

On motion, duly seconded, it was decided to advise the Southern California Association that the San Francisco Association would send a delegate to the Salt Lake City conference, provided that at least seven of the ten Associations in Districts Nos. 10, 11, and 12, agreed to do likewise.

It was also decided that the name of the delegate should be sent to all members of the Association in order that they might advise him of their ideas on the question.

Adjourned.

Subsequently, by action of the Board of Directors, Mr. H. L. Haehl was selected to represent the Association on the Committee on Development. On August 2d, 1918, only five of the ten Local Associations having signified their intention to send delegates to the Salt Lake City conference, the plan for that meeting was abandoned.

Colorado Association, Organized 1908.

L. R. Hinman, President; A. N. Miller, Secretary-Treasurer, 1122 Detroit Street, Denver, Colo.

The meetings of the Colorado Association of Members of the American Society of Civil Engineers (Denver, Colo.) are held on the second Saturday of each month, except July and August. The hour and place of meeting are not fixed, but this information will be furnished on application to the Secretary. The meetings are usually preceded by an informal dinner. Members of the American Society of Civil Engineers will be welcomed at these meetings.

Weekly luncheons are held on Wednesday at 12.30 p. m., at Daniels and Fisher's.

Visiting members are urged to attend the meetings and luncheons.

(Abstract of Minutes of Meeting)

June 15th, 1918.—The Tenth Annual Meeting was called to order at the Denver Athletic Club; President Follansbee in the chair; L. R. Hinman, Secretary.

The minutes of the meeting of May 11th, 1918, were read and approved.

President Follansbee read the Annual Address.

The Secretary-Treasurer presented the Annual Reports and the financial statement, and, on motion, duly seconded, these were accepted and ordered filed.

The report of the Nominating Committee was received, and Messrs. Charles W. Comstock and W. L. Drager were appointed Tellers to canvass the ballots for officers.

On the report of the Tellers, the following officers were declared elected: President, L. R. Hinman; Vice-President, E. C. Jansen; and Secretary-Treasurer, A. N. Miller.

The Secretary read the resolutions adopted by the Cleveland Association relative to the appointment of a delegate by each Local Association to constitute a committee to take up the revision of the Constitution of the Society. On motion, duly seconded, the President was authorized to appoint a delegate to attend such meetings as might be called.

Mr. C. A. Fisher, Geologist for the Midwest Refining Company, addressed the meeting on the subject, "Physical Conditions Under Which Oil Occurs and the Various Fields in the United States."

At the conclusion of the address, the President thanked Mr. Fisher on behalf of the Association.

Adjourned.

Atlanta Association, Organized 1912.

B. M. Hall, President; Thomas P. Branch, Secretary-Treasurer, Georgia School of Technology, Atlanta, Ga.

(Abstract of Minutes of Meeting)

July 29th, 1918.—The meeting was called to order at the Chamber of Commerce; President B. M. Hall in the chair; Thomas P. Branch, Secretary; and present, also, 4 members.

The minutes of the meeting of July 5th, 1918, were read and approved.

Thomas P. Branch was elected Secretary for the remainder of this term.

A letter from Secretary Chas. Warren Hunt was read, relative to the appointment of a representative on the Committee on Development of the Society.

On motion, duly seconded, President Hall was given authority to make such appointment, and he named Mr. Arthur Pew. In accepting the appointment, Mr. Pew stated that at one time he was the only member of the Society in Georgia.

On motion, duly seconded, it was decided that members of the Association meet for lunch on the last Monday of each month, at 12.30 P. M.

Adjourned.

Baltimore Association, Organized 1914.

H. G. Perring, President; Charles J. Tilden, Secretary-Treasurer, The Johns Hopkins University, Baltimore, Md.

Cleveland Association, Organized 1914.

Harry Fuller, President; George H. Tinker, Secretary-Treasurer, 516 Columbia Building, Cleveland, Ohio.

Detroit Association, Organized 1916.

T. A. Leisen, President; Clarence W. Hubbell, Secretary, 2348 Penobscot Building, Detroit, Mich.

The regular meetings of the Association are held on the second Friday of December, April, and October, the last being the Annual Meeting.

District of Columbia Association, Organized 1916.

A. P. Davis, President; John C. Hoyt, Secretary-Treasurer, U. S. Geological Survey, Washington, D. C.

Duluth Association, Organized 1917.

W. B. Patton, President; Walter G. Zimmermann, Secretary, Wolvin Building, Duluth, Minn.

The regular meetings of the Association are held at noon on the third Monday of each month (usually at the Kitchi Gammi Club), with luncheon, followed by a short business session and the reading of papers. Visiting members of the American Society of Civil Engineers can secure from the Secretary definite information relating to the meetings, at which they will be welcomed. The Annual Meeting is held on the third Monday in May.

Illinois Association, Organized 1916.

A. S. Baldwin, President; Edgar S. Nethercut, Secretary-Treasurer, 1735 Monadnock Blk., Chicago, Ill.

The regular meetings of the Association are held on the second Monday of March, June, September, and December, the last being the Annual Meeting. The hour and place of meeting are not fixed, but this information will be furnished on application to the Secretary.

Louisiana Association, Organized 1914.

Arsene Perrilliat, President; Eugene F. Delery, Secretary, 2007 Laharpe St., New Orleans, La.

The regular meetings of the Association are held at The Cabildo, New Orleans, La., on the first Monday of January, April, July, and October.

Nebraska Association, Organized 1917.

George L. Campen, President; Homer V. Knouse, Secretary-Treasurer, 109 City Hall, Omaha, Nebr.

Regular meetings of the Association are held on the first Saturday of each month, except July and August, and at such places as may be appointed from time to time by the Executive Committee. The Annual Meeting is held in Lincoln, Nebr., on the second Friday in January.

An "Engineers' Round Table" is reserved daily for luncheons, at Courtenay's Restaurant, 17th and Douglas Streets, Omaha, to which all engineers are invited. Visiting members of the Society are especially urged to communicate with the Secretary when in the city.

Northwestern Association, Organized 1914.

P. E. Thian, President; Ralph D. Thomas, Secretary, Care St. Anthony Falls Water Power Co. and Minneapolis Mill Co., Minneapolis, Minn.

The meetings of the Association are held bi-monthly, alternating between St. Paul and Minneapolis, on the third Friday of each month. Information as to the time and place of such meetings will be furnished on application to the Secretary.

Philadelphia Association, Organized 1913.

Henry H. Quimby, President; C. W. Thorn, Secretary, Crum Lynne, Pa.

The regular meetings of the Association are held at the Engineers' Club of Philadelphia, 1317 Spruce Street, on the first Monday in January, April, and October, the last being the Annual Meeting.

(Abstract of Minutes of Meeting)

June 18th, 1918.—The meeting was called to order at the Engineers' Club of Philadelphia, at 8.15 p. m.; President Quimby in the chair; C. W. Thorn, Secretary; and present, also, about 250 members and guests.

President Quimby read the resolutions adopted by the Board of Direction of the Association relative to the death of Edgar Marburg, and, on motion, duly seconded, the action of the Board was approved by the meeting.

On motion, duly seconded, the reading of the minutes of the previous meeting was dispensed with.

A paper by Mr. F. P. Heard, entitled "Concrete Ships", was presented by the author, who illustrated his remarks with lantern slides and motion pictures, and the subject was discussed by Messrs. W. A. Slater, R. W. Wig, S. M. Swaab, H. H. Quimby, C. W. Thorn, and others.

Adjourned.

Pittsburgh Association, Organized 1917.

Richard Khuen, Jr., President; John D. Stevenson, Secretary-Treasurer, 1231 Monterey St., Pittsburgh, Pa.

The Annual Meeting of the Association is held on the first Monday in October. The time and place of other meetings are not fixed, but this information will be furnished on application to the Secretary.

Portland, Ore., Association, Organized 1913.

Philip H. Dater, President; C. P. Keyser, Secretary, 318 City Hall, Portland, Ore.

St. Louis Association, Organized 1888 (Constitution Approved by Board, 1914).

J. A. Ockerson, President; C. M. Daily, Secretary-Treasurer, 4240 Shaw Avenue, St. Louis, Mo.

The Annual Meeting of the Association for the election of officers and for the transaction of business, is held on the fourth Monday in November. Two meetings each year, for the presentation and discussion of technical papers, are held in the Auditorium of the Engineers Club of St. Louis and are open to members of the Associated Societies. Other "get-together" meetings are held regularly for dinner or luncheon on the fourth Monday of each month except July, August, and November.

San Diego Association, Organized 1915.

N. B. Kellogg, President; P. R. Watson, Secretary-Treasurer, *pro tem.*, County Engineer's Office, San Diego, Cal.

Seattle Association, Organized 1913.

A. S. Downey, President; Phil. A. Franklin, Secretary, Care, City Engineer's Office, County-City Building, Seattle, Wash.

The regular monthly meetings and luncheons of the Association are held at the Frye Hotel, 3d Avenue and Yesler Way, at 12.15 P. M., on the last Monday of each month. All members, in any grade, of the American Society of Civil Engineers are cordially invited to attend the meetings when in the vicinity.

Southern California Association, Organized 1914.

Louis C. Hill, President; H. W. Dennis, Secretary, Edison Building, Los Angeles, Cal.

The Southern California Association of Members of the American Society of Civil Engineers (Los Angeles, Cal.) holds regular bi-monthly meetings with banquet, at Hotel Clark, on the second Wednesday of February, April, June, August, October, and December, the last being the Annual Meeting of the Association.

Informal luncheons are held at 12.15 P. M., every Thursday and the place of meeting may be ascertained from the Secretary.

The by-laws of the Association provide for the extension of hospitality to any member of the Society who may be temporarily in Los Angeles, and any such member will be gladly welcomed as a guest at any of the meetings or luncheons.

Spokane Association, Organized 1914.

Peter Mogensen, President; Charles E. Davis, Secretary, City Engineer's Office, Spokane, Wash.

The regular meetings of the Association are held on the second Friday of each month, except July and August. The hour and place of meeting are not fixed, but this information will be furnished on application to the Secretary.

Visiting members are invited to attend the meetings and luncheons.

Texas Association, Organized 1913.

R. C. Gowdy, President; J. H. Brillhart, Secretary, Care, Mosher Mfg. Co., Dallas, Tex.

Utah Association, Organized 1916.

George L. Swendsen, President; H. S. Kleinschmidt, Secretary-Treasurer, 1308 Walker Bank Building, Salt Lake City, Utah.

The Annual Meeting of the Association is held on the first Wednesday in April. The time of other meetings is not fixed, but this information will be furnished on application to the Secretary.

**PRIVILEGES OF ENGINEERING SOCIETIES
EXTENDED TO MEMBERS OF THE
AMERICAN SOCIETY OF CIVIL ENGINEERS**

Members of the American Society of Civil Engineers will be welcomed by the following Engineering Societies, both to the use of their Reading Rooms, and at all meetings:

American Institute of Electrical Engineers, 25 West Thirty-ninth Street, New York City.

American Institute of Mining Engineers, 25 West Thirty-ninth Street, New York City.

American Society of Mechanical Engineers, 25 West Thirty-ninth Street, New York City.

Asociación de Ingenieros y Arquitectos de Mexico, Avenida Juarez, 12, City of Mexico, Mexico.

Associação dos Engenheiros Cívis Portuguezes, Lisbon, Portugal.

Australasian Institute of Mining Engineers, Melbourne, Victoria, Australia.

Boston Society of Civil Engineers, 715 Tremont Temple, Boston, Mass.

Brooklyn Engineers' Club, 117 Remsen Street, Brooklyn, N. Y.

Civil Engineers' Society of St. Paul, Public Library, St. Paul, Minn.

Cleveland Engineering Society, Chamber of Commerce Building, Cleveland, Ohio.

Cleveland Institute of Engineers, Middlesbrough, England.

Dansk Ingeniorforening, Amaliegade 38, Copenhagen, Denmark.

- Detroit Engineering Society**, Detroit Board of Commerce Building, Detroit, Mich.
- Engineering Association of Nashville**, Commercial Club Building, Nashville, Tenn.
- Engineering Association of New South Wales**, 5 Elizabeth Street, Sydney, New South Wales, Australia.
- Engineering Institute of Canada**, 176 Mansfield Street, Montreal, Que., Canada.
- Engineering Societies Club of Hawaii**, E. F. Cykler, Secretary, Honolulu, Hawaii.
- Engineers and Architects Association of Southern California**, 405 Hosfield Bldg., Los Angeles, Cal.
- Engineers and Architects Club of Louisville**, 1412 Starks Building, Louisville, Ky.
- Engineers' Club of Baltimore**, 6 West Eager Street, Baltimore, Md.
- Engineers' Club of Kansas City**, Robert S. Beard, Secretary, Third Floor, City Hall, Kansas City, Mo.
- Engineers' Club of Minneapolis**, 17 South Sixth Street, Minneapolis, Minn.
- Engineers' Club of Philadelphia**, 1317 Spruce Street, Philadelphia, Pa.
- Engineers' Club of St. Louis**, 3817 Olive Street, St. Louis, Mo.
- Engineers' Club of Toronto**, 96 King Street, West, Toronto, Ont., Canada.
- Engineers' Club of Trenton**, Trent Theatre Building, 12 North Warren Street, Trenton, N. J.
- Engineers' Society of Northeastern Pennsylvania**, 415 Washington Avenue, Scranton, Pa.
- Engineers' Society of Pennsylvania**, 31 South Front Street, Harrisburg, Pa.
- Engineers' Society of Western Pennsylvania**, 568 Union Arcade Building, Pittsburgh, Pa.
- Florida Engineering Society**, J. R. Benton, Secretary, Gainesville, Fla.
- Institute of Marine Engineers**, The Minories, Tower Hill, London, E., England.
- Institution of Civil Engineers**, Great George Street, Westminster, S. W., London, England.
- Institution of Engineers of the River Plate**, Calle 25 de Mayo 195, Buenos Aires, Argentine Republic.
- Institution of Mechanical Engineers**, 11 Great George Street, London, S. W. 1, England.
- Institution of Naval Architects**, 5 Adelphi Terrace, London, W. C., England.
- Junior Institution of Engineers**, 39 Victoria Street, Westminster, S. W., London, England.

Koninklijk Instituut van Ingenieurs, The Hague, The Netherlands.
Louisiana Engineering Society, State Museum Building, Chartres
and St. Ann Streets, New Orleans, La.

Memphis Engineers' Club, Memphis, Tenn.

Midland Institute of Mining, Civil and Mechanical Engineers,
Sheffield, England.

Montana Society of Engineers, Butte, Mont.

North of England Institute of Mining and Mechanical Engineers,
Newcastle-upon-Tyne, England.

Oregon Society of Civil Engineers, Portland, Ore.

Pacific Northwest Society of Engineers, 803 Central Building,
Seattle, Wash.

Rochester Engineering Society, Rochester, N. Y.

Sociedad Colombiana de Ingenieros, Bogota, Colombia.

Sociedad de Ingenieros del Peru, Lima, Peru.

Societe des Ingenieurs Civils de France, 19 rue Blanche, Paris,
France.

Society of Engineers, 17 Victoria Street, Westminster, S. W.,
London, England.

Southwestern Society of Engineers, C. E. Banglebaugh, Secretary,
703 First National Bank Building, El Paso, Tex.

Svenska Teknologforeningen, Brunkebergstorg 18, Stockholm,
Sweden.

Tekniske Forening, Vestre Boulevard 18-1, Copenhagen, Denmark.

Vermont Society of Engineers, George A. Reed, Secretary,
Montpelier, Vt.

Western Society of Engineers, 1735 Monadnock Block, Chi-
cago, Ill.

ACCESSIONS TO THE ENGINEERING SOCIETIES LIBRARY

(From August 1st to September 1st, 1918)

DONATIONS *

The statements made in these notices are taken from the books themselves, and this Society is not responsible for them.

STORRS:

A Handbook for the Use of Those Interested in the Construction of Short Span Bridges. By John W. and Edward D. Storrs. Concord, N. H., the Authors, 1918. 40 illus., 20 tab., 7 x 4 in., flexible cloth. \$1.00.

A small pocketbook containing designs and methods of construction of small highway bridges, culverts, etc. Intended to assist men without engineering training in the construction of such structures.

ELECTRICAL PHENOMENA IN PARALLEL CONDUCTORS:

Vol. I, Elements of Transmission. By Frederick Eugene Pernot. N. Y., John Wiley & Sons, Inc.; Lond., Chapman & Hall, Ltd., 1918. 12 + 332 pp., 82 illus., 35 tab., 9 x 6 in., cloth. \$4.00.

Gives the mathematical developments leading to solutions for a number of problems arising in connection with the transmission of electrical energy over metallic circuits. Deals with continuously alternating-current phenomena only, and is intended to serve as an introduction to subsequent volumes dealing with specialized forms of electrical transmission. There is an appendix containing formulas and tables. Contents: Phenomena in Continuous-Current Transmission over Non-Leaky Lines; Direct-Current Line with Leakage; Periodic and Alternating Quantities; Fourier's Series and Analysis of Periodic Curves; Treatment of Non-Sinusoidal Alternating Quantities; The Use of the Oscillograph; Equations of Motion of the Galvanometer Mirror in the Electromagnetic Type of Oscillograph; Alternating-Current Phenomena in an Ideal Line; The Propagation Constant; The Equivalent Impedance of Circuits and the Determination of the Fundamental Constants by Measurement; Change of Wave Shape Along Lines; Power Relations in Long Lines; Voltage Regulation.

THE DESIGN OF AEROPLANES.

By Arthur W. Judge. Lond. & N. Y., Whittaker & Co., 1917. 10 + 242 pp., 90 illus., 67 tab., 9 x 6 in., cloth. \$4.00. (Gift of Macmillan Co.).

This volume endeavors to fulfill the need for a compendium in which the principles underlying airplane design, from the standpoint of the mechanical engineer, are concisely presented and accompanied by the necessary data. A small amount of new matter has been inserted in this edition, typographical errors have been corrected, and a chapter on fuselage design and construction has been added. Contains a bibliography.

AEROPLANE CONSTRUCTION AND OPERATION:

Including Notes on Aeroplane Design and Aerodynamic Calculation, Materials, Etc.: A Comprehensive Illustrated Manual of Instruction for Aeroplane Constructors, Aviators, Aero-Mechanics, Flight Officers, and Students; Adapted Either for Schools or Home Study. By John B. Rathbun. Chic., Stanton and Van Vliet Co., 1918. 426 pp., illus., pl., charts, diag., tab., 8 x 5 in., cloth. \$2.00.

The author has attempted to produce a book between the popular descriptive work and the mathematical engineering treatise, which will meet the needs of aviators and airplane builders. The volume covers the subject concisely and simply with the use of only elementary mathematics.

* Unless otherwise specified, books in this list have been donated by the publishers.

CHEMICAL CONTROL OF GAS MANUFACTURE:

Practical Instruction in Gas Works Chemistry for Superintendents, Foremen, and Chemists; Part I, Practical Application. By W. M. Russell. Part II, Elementary Chemical Theory. By F. Wills. N. Y., The Gas Age, 1916. 152 pp., 47 illus., 1 pl., 18 tab., 8 x 5 in., cloth. \$1.50.

Devoted to a discussion of the methods for controlling gas-works processes by the use of chemistry, giving the most recent and reliable tests and analyses and explaining the methods used. Adapted to the requirements of men in the smaller plants.

A HANDBOOK OF BRIQUETTING.

By G. Franke. Translated by Fred C. A. H. Lantsberry. Vol. II, Briquetting of Ores, Metallurgical Products, Metal Swarf, and Similar Materials, Including Agglomeration. Lond., Charles Griffin & Co., Ltd.; Phila., J. B. Lippincott Co., 1918. 11 + 214 pp., 79 illus., 4 folded pl., 14 tab., 9 x 6 in., cloth. (Gift of J. B. Lippincott Co.)

Describes the various materials briquetted; methods of briquetting and agglomeration, preparation of material, compression and subsequent treatment of briquettes. A number of complete briquetting and agglomeration plants in Germany and Austria are shown in detail. Appendices to Volumes 1 and 2 are included.

STEAM ENGINES:

A Thorough and Practical Presentation of Modern Steam Engine Practice. By Llewellyn V. Ludy. Chic., American Technical Society, 1917. 192 pp., 103 illus., 1 pl., 8 tab., 8 x 6 in. \$1.00.

Treats of the theory and construction of various types of steam engines and of their purchase, operation, and testing. A non-mathematical treatise intended for stationary engineers and particularly adapted for home study.

HOW WOODEN SHIPS ARE BUILT.

A Practical Treatise on Modern American Wooden Ship Construction with a Supplement on Laying Off Wooden Vessels. By H. Cole Estep. Cleveland, The Penton Pub. Co., 1918. 11 + 101 pp., 201 illus., 6 tab., 12 x 9 in., cloth.

This book is a revised publication of a series of articles which appeared in *The Marine Review*. It deals with methods of construction rather than with ship design, and is intended for shipbuilders rather than for naval architects. A supplement on methods of laying down wooden ships is included.

HYDRAULIC AND PLACER MINING.

By Eugene B. Wilson. 3d ed., thoroughly revised. N. Y., John Wiley & Sons, Inc.; Lond., Chapman & Hall, Ltd., 1918. 425 pp., 95 illus., 1 pl., 20 tab., 8 x 5 in., cloth. \$3.00.

This edition contains much additional information intended to bring the work abreast of the latest improvements in this industry. The book is designed to appeal not only to those actually engaged in placer mining, but also to those who want the latest ideas on the subject.

ALLEN'S COMMERCIAL ORGANIC ANALYSIS:

A Treatise on the Properties, Modes of Assaying, and Proximate Analytical Examination of the Various Organic Chemicals and Products Employed in the Arts, Manufactures, Medicines, Etc., with Concise Methods for the Detection and Estimation of Their Impurities, Adulterations, and Products of Decomposition; Vol. IV. Edited by

W. A. Davis and Samuel S. Sadtler and the Following Contributors: M. Bennett Blackler, E. W. Lewis, T. Martin Lowry, Ernst J. Parry, Henry Leffmann, Charles H. Lawall. 4th ed., entirely rewritten. Phila., P. Blakiston's Son & Co. (copyright 1911, reprinted 1917). 466 pp., tab., 9 x 6 in., cloth. \$5.00.

The subject has been divided between a number of authorities, and much new matter has been included, so that the volume forms a convenient compendium of present knowledge on the subject.

STANDARD COTTON MILL PRACTICE AND EQUIPMENT:

With Classified Buyers' Index. Boston, The National Association of Cotton Manufacturers, 1918. 203 pp., illus., tab., 9 x 6 in., cloth. \$1.50.

An annual encyclopedia, containing economic trade and engineering data of interest to mill executives. Contains also a classified directory of manufacturers of cotton mill supplies and equipment.

UNIFORM COST ACCOUNTING FOR STEEL FURNITURE INDUSTRY.

Compiled by Erich W. Kath. [Cleveland], The National Association of Steel Furniture Manufacturers (copyright, 1918). 106 pp., 5 forms, 8 x 5 in., cloth.

The methods of ascertaining costs presented are the result of careful investigation of the conditions in different organizations. The systems recommended are in accord with the best practices of accounting and, with minor changes, can be adapted to the needs of the various concerns.

HANDBOOK OF MATHEMATICS FOR ENGINEERS.

By Edward V. Huntington. With Tables of Weights and Measures by Louis A. Fischer. N. Y., McGraw-Hill Book Co., Inc.; London, Hill Pub. Co., Ltd., 1918. 191 pp., illus., tab., 7 x 5 in., flexible cloth. \$1.50.

Designed to supply, in compact form, accurate statements of those facts and formulas of pure mathematics, which are most likely to be of use to the worker in applied mathematics. Reprinted from Marks' "Mechanical Engineers' Handbook."

ELECTRIC LOCKING.

By James Anderson. N. Y., Simmons-Boardman Publishing Co. (copyright, 1918). 210 illus., 9 x 6 in. \$2.00.

Describes in detail the various methods for the supplementary protection of a system of interlocking switches, the apparatus used, methods of wiring, etc. Portions of the book appeared in the *Railway Signal Engineer*.

MUNICIPAL HOUSECLEANING:

The Methods and Experiences of American Cities in Collecting and Disposing of Their Municipal Wastes—Ashes, Rubbish, Garbage, Manure, Sewage, and Street Refuse. By William Parr Capes and Jeanne Daniels Carpenter, with an Introduction by Cornelius F. Burns. N. Y., E. P. Dutton & Co., 1918. 20 + 232 pp., 16 tab. (2 folded) 10 x 6 in., cloth. \$6.00.

Designed to furnish the information needed by those who are interested in the problems of the collection, and care and disposal of municipal wastes. The authors also take up the need for more efficient management and for the development of revenue-producing by-products. Intended to help public officials in selecting and operating the system best adapted to local conditions, and also to serve as a guide to the layman who wishes to inform himself about the methods of municipal housecleaning.

WATER RIGHTS DETERMINATION:

From an Engineering Standpoint. By Jay M. Whitham. N. Y., John Wiley & Sons, Inc.; Lond., Chapman & Hall, Ltd., 1918. 12 + 204 pp., tab., 9 x 6 in., cloth. \$2.50.

Intended to assist an owner of an indefinite water right in determining the meaning of his right as expressed in horse-powers, and the number of cubic feet of water per second to which he is entitled. Gives citations from representative writings and presents many tests and power determinations used by the author. A bibliography is included.

PORTS AND TERMINAL FACILITIES.

By Roy S. MacElwee. N. Y., McGraw-Hill Book Co., Inc.; Lond., Hill Pub. Co., Ltd., 1918. 315 pp., 118 illus., 1 folded map, 17 tab., 9 x 6 in., cloth. \$3.00.

This is a revision of the material used in a course of lectures at the School of Business, Columbia University. Discusses some of the engineering and economic factors which determine the success or failure of a port. Contents: The Nature of the Problem; The Relative Importance and Physical Characteristics of the World's Leading Ports; General Characteristics of a Well-Co-ordinated Seaport; Port Competition for Rail and Maritime Freight; The Harbor Belt Railway and Competition at the Terminals; Lighterage, Cartage, Drays and Motor Trucks; Piers, Wharves and Quays; Wharf Equipment; Cargo Transfer and Handling; Shed Equipment; The Warehouse; Standard Package or Specialized Freight; Bulk Freight; Inland Waterways and the Seaport; The Industrial Harbor and Upland Development; The Free Port as an Institution; The Processes by Which the Free Ports of Hamburg and Bremen were Created; Bibliography.

ROLL OF HONOR

A List of Members of the Society Who are Serving in the Army or Navy of the United States or Any of Its Allies.*

- VANSITTART, GEORGE EDWARD.** Maj., 13th Battery, Canadian Field Artillery, 2d Canadian Div.; wounded in action (France); died May 14th, 1918.
- AGNEW, AUGUSTUS WATEROUS.** Capt., 3d Canadian Pioneers; wounded in action (France); died September 17th, 1916.
- HAGUE, WILLIAM.** 1st Lieut., Engr. R. C., 116th Engrs.; died in service (France), January 1st, 1918.
- GOODFELLOW, JAMES GORDON.** Maj., Royal Engrs.; killed in action (France), March 23d, 1918.
- BUCKWALTER, DANIEL HARRIS.** Capt., Engr. R. C.; killed in action (France), May 12th, 1918.
- LINDBERY, CHARLES ARTHUR.** Capt., Engr. R. C.; died in service (Camp Lee, Va.).

- Abbot, Frederic V.** Brig.-Gen., Corps of Engrs., N. A.
- Abbot, Frederick William.** Lt.-Col., British Army.
- Acher, A. H.** Maj., Corps of Engrs., U. S. A.; Acting Lt.-Col., 4th Engrs., A. E. F., France.
- Acker, Robert L.** Corporal, Headquarters Co., 7th Field Artillery, A. E. F., France.
- Ackerman, Alexander S.** Capt., Engr. R. C., A. E. F., France.
- Ackerman, Arthur P.** 1st Lieut., Engr. R. C., 517th Engrs.
- Adams, Arthur.** Maj., Ord. R. C.
- Adams, Edward M.** Maj., U. S. A.
- Adams, Milton Jewell.** Capt., Engr. R. C., Co. C, 114th Engrs.
- Adams, Raymond E.** Capt., Q. M. R. C.
- Adams, Walter Francis.** Sergeant, 23d Engrs., A. E. F., France.
- Adams, William H.** Capt., Q. M. C., U. S. A.
- Albert, Frederick W.** Lt.-Col., Engrs., N. A., 33d Engrs.
- Alden, Herbert C.** 1st Lieut., C. A., U. S. A.
- Alden, Langford Taylor.** Aspirant, 7^e Batterie, 51st Regt. d'Artillerie, Secteur Postal No. 82 (French Army); Care, Morgan, Harjes Cie., Boulevard Haussmann, Paris, France.
- Alexander, E. Porter.** 1st Lieut., Engr. R. C., 509th Engrs., A. P. O. 701, A. E. F., France.
- Alexander, Kay.** Maj., 2d in Command, 12th Canadian Ry. Troops, B. E. F., France.

* This list is made up from replies to a circular forwarded to members of the Society, and others, and is probably neither accurate nor complete. It is requested that the attention of the Secretary be called to any omissions or inaccuracies in order that they may be corrected in subsequent lists.

- Allen, Franklin R. Capt., Engr. R. C.
Allen, Herschel Heathcote. Capt., Engr. R. C.
Allen, Ralph B. 1st Lieut., Engr. R. C., Co. B, 25th Engrs., A. E. F., France.
Allen, Walter Henry. Maj., Engr. R. C.
Allen, Walter Hinds. Civ. Engr., U. S. N. (rank of Lt.-Commander).
Allison, William F. Maj., Engr. R. C., A. E. F., France.
Altman, Frank S. Lieut., Engr. R. C., 23d Engrs.
Altstaetter, F. W. Col., Corps of Engrs., U. S. A.
Anderson, J. E. Maj., 212th Field Co., Royal Engrs., B. E. F., France.
Anderson, J. H. Capt., Engr. R. C.; Adj., 1st Replacement Engrs.
Anderson, W. P. Capt., Engr. R. C., A. E. F., France.
Anderson, W. S. Cadet, School of Military Aeronautics.
Andrew, Clarence R. Capt., Engr. R. C., 32d Engrs.
Andrews, Carl B. Capt., Engr. R. C.
Andrews, J. H. M. Maj., Ord. R. C.
Angas, Robert M. 1st Lieut., U. S. N. G., 106th Engrs.
Annear, E. H. Capt., Engr. R. C., 20th Engrs.
Applegarth, Gault. Capt., Engr. R. C., 23d Engrs.
Ardery, Edward Dahl. Col., Corps of Engrs., U. S. A.; Chf. Gas Officer, 2d Army Corps, A. E. F., France.
Armitage, George W. Capt., Q. M. R. C.
Arms, Leo M. Lieut., Engr. R. C., Co. F, 2d Engrs., A. E. F., France.
Armstrong, Charles Johnstone. Brig.-Gen.; Chf. Engr., H. Q., Canadian Army Corps, B. E. F., France.
Armstrong, Merwin. Capt., Engr. R. C., Co. B, 105th Engrs.
Arn, William G. Maj., Engrs., N. A., 13th U. S. Engrs. (Ry.), Postal Sector 215, A. E. F., France.
Ashkins, Nathan Thomas. 1st Lieut., Engr. R. C., Lines of Communication, Eng. Headquarters, A. E. F., France.
Ashley, Carl. Capt., Engr. R. C., U. S. Military P. O. 702, A. E. F., France.
Ashmead, P. H. Maj., Engr. R. C.
Ashton, Raymond. 2d Lieut., A. S., Sig. R. C., A. E. F., France.
Asplundh, E. T. Capt., Engr. R. C.; Supply Officer, 103d Engrs.
Asserson, Henry Raymond. Maj., Engr. R. C., C. E. L. O. C., A. E. F., France.
Atterbury, W. W. Brig.-Gen.; Director-General of Transportation, A. E. F., France.
Atwood, William G. Lt.-Col., Engrs., N. A., 17th Engrs. (Ry.), U. S. A. P. O. 701, A. E. F., St. Nazaire, France.
Austill, Hurieosco. Capt., Engr. R. C., Co. D, 501st Engrs. (Service Bn.), A. E. F., France.
Austin, H. A. R. 1st Lieut., Engrs., U. S. A.

- Ayres, John Henry. Capt., Engr. R. C., Co. D, 42d Engrs.
Ayres, Quincy C. 2d Lieut., Engr. R. C. (*Unattached*), A. E. F., France.
Babbitt, Harold E. Capt., Engr. R. C., Chf. Engr.'s Office, Adv. Sect. S. O. S., U. S. P. O. No. 714, A. E. F., France.
Baffrey, Charles R. Capt., 102d Reg. d'Artillerie (French Army), Secteur Postal 160, B. C. M., Paris, France.
Bailey, Lewis P. Capt., Engr. R. C., Co. A, 304th Engrs.
Bakenhus, R. E. Civ. Engr., U. S. N. (rank of Commander).
Baker, George L. 1st Lieut., Inf., N. A.
Baker, H. S. Lt.-Col., Engrs., N. A., 111th Engrs.
Baker, Shirley. Capt., Engr. R. C., Co. B, 23d Engrs.
Balch, William H. Capt., Engr. R. C., A. P. O. 712, A. E. F., France.
Barber, Charles W. Private, 38th U. S. Engrs.
Barber, Justin F. Sergeant, Co. M, 23d Engrs., A. E. F., France.
Barber, Norman N. Capt., Engrs., N. A., 16th Engrs., A. E. F., France.
Barclay, A. J. 1st Lieut., Engr. R. C.
Barney, Samuel E. Maj., Engr. R. C. (*Unassigned*).
Bartholomew, B. W. Lieut., Engr. R. C., 301st Engrs.
Bascom, George R. Maj., San. C., N. A.
Bassett, Herbert H. Maj., Engr. R. C.
Battie, H. S. 1st Lieut., Engr. R. C.
Baxter, O. G. Capt., Engr. R. C., Co. C, 601st Engrs.
Bayliss, Paul. 2d Lieut., Engr. R. C., 8th Engrs. (Mounted).
Beach, Lansing H. Col., Corps of Engrs., U. S. A.
Beall, Pendleton. Private, Headquarters Co., 165th Inf., A. E. F., France.
Beam, Carl Eugene. 2d Lieut., Engrs., N. A.
Bebb, Edward C. Capt., Engr. R. C.
Beeman, Thomas R. Capt., Engr. R. C., Care, D. G. T., A. E. F., France.
Beerbower, Dumont. Capt., Engrs., N. A., Co. C, 535th Engrs.
Begg, R. B. H. Capt., Engr. R. C., A. E. F., France.
Behrman, I. E. 1st Lieut., Engr. R. C., Care, C. E. O., Zone of the Advance, A. E. F., France.
Belknap, Francis W. U. S. Army P. O. 705, A. E. F., France.
Bell, George Edward. Lieut., Canadian Engrs., Care, Bank of Montreal, Waterloo Pl., London, S. W., 1, England.
Bell, Harry W. Capt., Engr. R. C.
Bellinger, L. F. Civ. Engr., U. S. N. (rank of Commander).
Benham, Claude Gilbert. Capt., C. A. C., U. S. A.
Benham, W. L. Maj., Q. M. R. C.
Bennett, John W. F. Maj., Q. M. C., N. A.

- Bennison, Ernest William. 1st Lieut., Engr. R. C., 23d Engrs.
Bensel, J. A. Maj., Engr. R. C.
Benson, Orville. Maj., Engr. R. C., A. E. F., France.
Berdeau, Ray W. Capt., Engr. R. C.
Bergan, Thomas B. Lieut., N. A.
Betts, Clifford A. 1st Lieut., C. A. R. C., Battery E, 52d Artillery, A. E. F., France.
Biddle, John. Maj.-Gen., U. S. A.
Billings, A. W. K. Lt.-Commander, Care, Commander, U. S. Naval Aviation Forces, Paris, France.
Billings, Fred M. Capt., Engr. R. C.
Binckley, George Sydney. Maj., Engr. R. C., 112th Engrs.
Binger, Walter D. 2d Lieut., Sig. R. C.
Birdseye, Claude H. Maj., Engrs., U. S. A., Office, Chf. of Artillery, A. P. O. 706, A. E. F., France.
Bishop, Roy P. 2d Lieut., Engr. R. C., 35th Engrs., A. P. O. 735, A. E. F., France.
Bither, T. A. 2d Lieut., Sig. R. C., A. S.
Bixby, William H. Brig.-Gen., U. S. A. (*Retired*).
Black, Dudley F. Capt., Engr. R. C., Co. C, 513th Engrs., A. E. F., France.
Black, G. G. Capt., Engr. R. C.; Acting Adjt., 314th Engrs.
Black, James B. 1st Lieut., Engr. R. C., Chf. Engr.'s Office, Headquarters, A. E. F., France.
Black, Ralph P. 1st Lieut., Engr. R. C., 32d Engrs.
Black, Roger Derby. Lt.-Col., Corps of Engrs., U. S. A., Headquarters, A. E. F., France.
Black, William M. Maj.-Gen.; Chf. of Engrs., U. S. A.
Blackman, J. W. B. Lieut., Canadian Ry. Troops, C. E. F., France.
Blair, Alexander. 2d Lieut., Royal Engrs., B. E. F., France.
Blair, McCrea Parker. Capt., No. 1 Depot Bn., Manitoba Regt., Winnipeg, Man., Canada.
Blanchard, Murray. Maj., Engr. R. C., 520th Engrs.
Boesch, Clarence E. Capt., U. S. N. G., Co. B, 105th Engrs.
Boggs, F. C. Col., 315th Engrs., N. A.
Boland, Charles J. 1st Lieut., Sig. C., U. S. A., 80th Aero Squadron, A. E. F., France.
Bolin, Harry W. Sergeant, Co. E, 23d Engrs.
Bolton, Frank L. Capt., Engr. R. C., 20th Engrs.
Bond, P. S. Col., 107th Engrs., N. A.; Div. Engr., 32d Div., Army Engr. School, U. S. P. O. 714, A. E. F., France.
Bonner, John P. Capt., C. A. R. C., A. E. F., France.
Boorman, Kitchell M. Lieut., Sig. C., U. S. A., 481st Aero Squadron, A. E. F., France.
Booth, Raymond. 1st Lieut., Engr. R. C., 54th Engrs.

- Booz, Horace Corey. Col., R. T. C., N. A., Care, D. G. T., A. E. F., France.
- Borden, Guy. Co. 2, E. O. T. C., Camp Humphreys, Va.
- Bosche, Guy. Capt., Engr. R. C., M. P. O. 705, A. E. F., France.
- Bott, C. N. 1st Lieut., Engr. R. C., 312th Engrs.
- Bowen, Edward Withers. Capt., Inf. R. C., 2d Inf. Replacement Regt.
- Bowlby, Henry L. Maj., 43d Engrs., N. A.
- Bowles, James T.-B. Maj., San. C., N. A.
- Bowne, Sidney B. 2d Lieut., U. S. Public Health Service.
- Boyd, George R. Capt., Engr. R. C., A. E. F., France.
- Boyden, Harry C. Maj., Engrs., U. S. A.
- Boyle, James M. Maj., Ord. R. C.
- Bragg, Kendal B. Asst. Civ. Engr. (rank of Lieut. (Junior Grade)).
- Braly, Raymond F. 1st Lieut., Engr. R. C.
- Braunworth, Percy L. Capt., Engr. R. C., Care, Director General of Transportation, Army P. O. 705, A. E. F., France.
- Bres, Edward Sedley. 1st Lieut., Engr. R. C., 114th Engrs.
- Brewster, Henry B. Capt., Engr. R. C., and Adjt., 303d Engrs.
- Breymann, John B., Jr. 2d Lieut., C. A. R. C., 22d Co.
- Briggs, Robert W. 2d Lieut., Sig. R. C., A. S., 73d Aero Constr. Squadron.
- Bright, Graham B. Capt., Engr. R. C., and Regimental Adjt., 305th Engrs. (Pioneers).
- Brinkley, Milo H. Capt., Engr. R. C.
- Bronson, Howard F. Capt., San. C., N. A.
- Brook, A. E. Capt., Royal Engrs., B. E. F., France.
- Brooking, J. H. Capt., Engr. R. C., Co. B, 12th Engrs. (Ry.), A. E. F., France.
- Brooks, Josiah R. 1st Lieut., Engr. R. C.
- Brown, Charles E. Capt., Engr. R. C.
- Brown, Clarence C. 1st Lieut., Co. E, 12th Engrs. (Ry.), A. E. F., France.
- Brown, Earl I. Col., 317th Engrs.
- Brown, Elbert C. Capt., Engrs., U. S. R.
- Brown, Elliot C. Lt.-Commander, U. S. N. R.
- Brown, H. Whittemore. 2d Lieut., Engr. R. C., A. E. F., France.
- Brown, Harry Madara. 1st Lieut., Inf. R. C. (*Unassigned*).
- Brown, Levant R. Capt., Engr. R. C.
- Brown, Marshall W. Maj., Engr. R. C., P. O. 702, A. E. F., France.
- Brown, Norman F. Maj., R. T. C., N. A., Care, Director-Gen. of Transportation, A. E. F., France.
- Brown, Robert H. Capt., San. C., N. A.
- Brownell, E. H. Civ. Engr., U. S. N. (rank of Commander).

- Bruner, Louis S. 1st Lieut., Engrs., U. S. A., 23d Engrs., A. E. F., France.
- Brush, Carl F. Capt., Engr. R. C., A. P. O. 716, A. E. F., France.
- Bryan, Clark A. Capt., Engr. R. C.
- Buchanan, Warren Henderson. Chf. Machinist Mate, U. S. N. R. F.
- Bucher, Harold F. Lieut., Engr. R. C., 2d Engrs., A. E. F., France.
- Buck, Richard S. Maj., 11th Engrs. (Ry.), A. E. F., France.
- Buck, Walter Van. Capt., Engr. R. C., 23d Engrs.
- Bunker, George H. Capt., Engr. R. C., 306th Engrs.
- Bunker, Stephen S. Capt., Engr. R. C., Co. C, 503d Service Bn., A. E. F., France.
- Burd, Edward M. Capt., C. A. R. C.
- Burdett, O. L. Capt., Engr. R. C., Co. A, 25th Engrs., A. E. F., France.
- Burger, Alfred A. 2d Lieut., Inf. N. A., 19th Co., 2d Inf. Replacement Regt.
- Burgess, Harry. Col., N. A., 16th Engrs. (Ry.), A. E. F., France.
- Burkett, Joseph M. Capt., Engr. R. C., A. E. F., France.
- Burky, C. R. Capt., Sig. R. C., A. S.
- Burr, Edward. Col., Corps of Engrs., U. S. A., Manila, Philippine Islands.
- Burrell, Glenn S. Civ. Engr., U. S. N. (rank of Lt.-Commander).
- Burrowes, H. G. 1st Lieut., Engr. R. C., Co. B, 25th Engrs., A. E. F., France.
- Burt, Henry J. Maj., Q. M. C., N. A.
- Burton, William. 1st Lieut., Engr. R. C.
- Bush, Lee M. Central Officers' Training School, Camp Zachary Taylor, Ky.
- Bush, Lincoln. Col., Q. M. C., U. S. A.
- Bushnell, Howard B. Capt., Engr. R. C., A. E. F., France.
- Bushnell, Howard E. Capt., Engr. R. C.
- Busse, Franz A. Capt., Engr. R. C. (*Unattached*), A. E. F., France.
- Butler, John Soule. Maj., Engr. R. C.
- Butler, Millard A. Col., Q. M. C., N. A.
- Butler, William P. Lieut., U. S. N. R. F.
- Byam, L. H. Capt., Engr. R. C.
- Byllesby, Henry M. Maj., Sig. R. C., A. S.
- Byrd, J. H. Capt., Engr. R. C., 314th Engrs.
- Caffall, Geoffrey A. Private, No. 1 Coy., Canadian Machine Gun Depot, Seaford, Sussex, England.
- Caldwell, William H. Lieut., U. S. N. R. F.
- Cameron, Harry Frank. Lt.-Col., 4th Engr. Training Regt., Camp A. A. Humphreys, Va.
- Camp, George Dashiell. 1st Lieut., Engr. R. C., 316th Engrs.

- Campbell, Charles C.** Private, Co. No. 13, Motor Group, Med. C.
Canfield, George Hathaway. Capt., Engr. R. C., 316th Engrs.
Carey, Matthew L. Capt., Q. M. R. C., A. E. F., France.
Carey, William N. Maj., 1st Bn., 313th Engrs.
Carlin, J. P. Capt., Engr. R. C.
Carlson, Carl Alexius. Civ. Engr., U. S. N. (rank of Lt.-Commander).
Caro, Phillip. Lieut., 2d Junior Co., No. 4 Command Depot, A. T. F., Codford, Wiltshire, England.
Carroll, James E. Maj., Engr. R. C., 527th Engrs., A. P. O. 701, A. E. F., France.
Carter, E. Kemper. Capt., Engr. R. C., Co. C, 518th Engrs.
Case, Charles A. 1st Lieut., Engr. R. C., 314th Engrs.
Cate, Charles Edward. Capt., 45th Engrs., N. A.
Caton, John H., 3d. Capt., Engr. R. C., Co. F, 33d Engrs.
Cattell, William A. Maj., Engr. R. C.
Cerny, John W. Maj., Q. M. C., N. A.
Chadwick, Maurice F. Private, 24th Tr. Bn., F. A. R. D., Camp Jackson, S. C.
Chamberlaine, Robert L. Capt., A. S., Sig. R. C.
Chambers, Frank T. Civ. Engr., U. S. N. (rank of Captain).
Chandler, William E. Master Gunner, Headquarters Co., 55th Artillery, C. A. C., A. P. O. 723, A. E. F., France.
Chapman, Mellville D. Lieut., U. S. Marine Corps.
Charnley, Walter. 1st Lieut., Engrs., U. S. A.
Chase, Clifford E. Capt., Engr. R. C., Co. A, 4th Engrs.
Cheney, Sherwood A. Col., N. A., 110th Engrs., A. E. F., France.
Cherry, Alan Gordon. 1st Lieut., N. A., 301st Engrs.
Chevalier, Willard T. Capt., Engr. R. C., Co. D, 11th Engrs. (Ry.), A. E. F., France.
Child, John T. 2d Lieut., San. C., N. A.
Chittenden, Albert Frederick. 1st Lieut., Engr. R. C., Co. F, 18th Engrs. (Ry.), P. O. No. 705, A. E. F., France.
Christensen, George A. Capt., Q. M. R. C.
Christophers, Reginald Gillon. (No. 60286), 2d Lieut., 34th Reinforcements, N. Z. E. F.
Church, Elihu C. Capt., Engr. R. C., A. E. F., France.
Churchill, Percival M. Maj., Engr. R. C., Headquarters, 538th Engrs.
Churchill, Robert C. Lieut., Co. D, 25th Engrs., A. E. F., France.
Clafin, William B. Capt., Engr. R. C., Headquarters, 39th Div.
Claiborne, Herbert A., Jr. 2d Lieut., Sig. R. C. (*Unassigned*).
Clark, Ernest A. Capt., Engr. R. C.
Clark, Howard F. Capt., Engr. R. C., A. E. F., France.
Clarke, Harry L. 1st Lieut., Engr. R. C., Co. E, 28th Engrs., N. A.

- Clarke, Thomas C. Lt.-Col., 110th Engrs., A. E. F., France.
- Clarke, W. D. Capt., Engr. R. C., 23d Engrs. (Highway), A. E. F., France.
- Clayton, Thomas W. Capt., Engr. R. C., A. E. F., France.
- Cleckner, Frederick M. Private, Meteorological Section, Sig. C.
- Cleveland, Lou B. 1st Lieut., Engr. R. C., Co. D, 105th Engrs.
- Clinton, Delmar S. Maj., Engr. R. C.
- Cobb, William R. Lieut., U. S. N. N. V., U. S. S. *Frederick*.
- Cochrane, Victor Hugo. Maj., Q. M. C., N. A.
- Coe, C. S. Maj., Engrs., N. A., 17th Engrs. (Ry.), A. P. O. 701, A. E. F., France.
- Coe, David. Capt., R. E., Care, R. C. E., Communications, A. P. O., S 1, B. E. F., France.
- Coe, E. K. Maj., Engr. R. C., Care, C. E. O., L. of C., U. S. M. P. O. No. 702, A. E. F., France.
- Cole, Howard J. Capt., Engr. R. C.
- Coleman, Eugene H. Capt., Engr. R. C., 312th Engrs.
- Colgan, R. J. Capt., 11th Engrs. (Ry.), A. E. F., France.
- Collins, Earl H. Capt., C. A. R. C.
- Collins, Merton C. 1st Lieut., Engr. R. C.
- Columbia, Curtis F. 1st Lieut., C. A. R. C., Heavy Artillery Headquarters, A. E. F., France.
- Comly, Harry S. Meteorologist, Sig. C, 32d Service Co., Meteorological Section, U. S. A.
- Comly, James R. 1st Lieut., Engr. R. C., 55th Engrs.
- Compton, Arthur M. Lt.-Col., 126th F. A.
- Compton, R. Keith. Maj., Engr. R. C.
- Conard, Clarence Knight. Maj., Ord. R. C.
- Conard, R. A. Civ. Engr., U. S. N. R. F., Port au Prince, Haiti.
- Connelly, Walter L. Master Engr., Senior Grade, Headquarters Detachment, 310th Engrs.
- Connolly, A. H. Cadet, School of Military Aeronautics.
- Connor, W. D. Col., N. A., Gen. Staff; Asst. Chf. of Staff, A. E. F., France.
- Converse, Joseph B. Lieut., U. S. A., Constr. Div.
- Conway, N. B. Capt., Engr. R. C., 516th Engrs.
- Cook, Paul D. Capt., Engr. R. C., 109th Engrs.
- Cooke, Frederick H. Civ. Engr., U. S. N. (rank of Lt.-Commander).
- Cooksey, R. M. Maj., Q. M. C., U. S. A.
- Coombs, Robert D. Maj., Ord. R. C.
- Coomer, R. M. Capt., Engr. R. C., Headquarters, Eng. Corps, Line of Communications, A. E. F., France.
- Cooper, David R. Capt., Engr. R. C., A. E. F., France.
- Cooper, Hugh L. Lt.-Col., N. A., A. E. F., France.

- Copeland, Robert Morris.** 2d Lieut., Engr. R. C.; Instr., 111th Engrs.
- Corkran, Wilbur Sherman.** Capt., Engrs., U. S. A., Co. A, 1st Engrs., A. E. F., France.
- Cornell, J. W.** Capt., Q. M. C., N. A.
- Cornish, Lorenzo D.** Capt., Engr. R. C., Co. C, 15th Engrs. (Ry.), A. E. F., France.
- Cosby, Spencer.** Col., Corps of Engrs., U. S. A., 5th Engrs.
- Cotter, Carl Henry.** Asst. Civ. Engr., U. S. N.
- Covert, John F.** 1st Lieut., Engr. R. C.
- Cowles, William Pierce.** Maj., Engr. R. C., 34th Engrs., A. E. F., France.
- Cox, Leonard M.** Civ. Engr., U. S. N. (rank of Commander).
- Coy, Burgis G.** Capt., Engrs., U. S. A., Co. D, 314th Engrs., A. E. F., France.
- Cragin, Charles Calhoun.** Capt., Co. C, 18th Engrs. (Ry.), A. E. F., France.
- Crandall, Carl.** Flying Cadet, U. S. Air Service.
- Crane, Albert Eli.** 1st Lieut., Engr. R. C., 6th Engrs., A. E. F., France.
- Crane, Joseph S.** Maj., Q. M. C., N. A.
- Crawford, Hugh W.** Capt., Co. A, 110th Engrs.
- Crawford, Ivan C.** Maj., U. S. N. G., 115th Engrs.
- Crecelius, S. F.** Lt.-Col., Engr. R. C., 101st Engrs., A. E. F., France.
- Crocker, Herbert Samuel.** Maj., Engr. R. C.
- Crocker, James R.** Capt., Engr. R. C., Co. F, 106th Engrs.
- Crooks, Clinton H.** Capt., Engrs., U. S. A.
- Crosby, W. W.** Lt.-Col., Engrs., N. A.
- Crowell, Francis S.** Capt., Q. M. C., N. A.
- Crozier, William.** Maj.-Gen., U. S. A.; Chief of Ordnance, U. S. A.
- Cudebec, Albert B.** Capt., Engr. R. C., U. S. Military P. O. No. 702, A. E. F., France.
- Culver, Arthur.** Lieut., R. E., 156th Field Co., R. E., B. E. F., France.
- Cunningham, John G. L.** Capt., Ord. R. C.
- Curfman, Lawrence E.** Maj., Engr. R. C., 314th Engrs.
- Currey, J. W.** 1st Lieut., Engr. R. C., Co. C, 115th Engrs.
- Currie, Thomas A., Jr.** Private, 116th Engr. Detachment, A. P. O. 727, St. Aignan-Noyers, A. E. F., France.
- Cushing, Edward B.** Maj., Engr. R. C.; Supt., Army Transport Service, U. S. A. P. O. No. 705, A. E. F., France.
- Cutler, Leon G.** Capt., C. A. R. C., 57th Artillery, C. A. C., A. E. F., France.
- Dallis, Park A.** Capt., Engr. R. C.; Adj., 24th Engrs.

- Daly, A. P. V. 2d Lieut., 4th Connaught Rangers; 48 Cathcart Rd., London, S. W., England.
- Daly, D. A. Capt., Engr. R. C., 16th Engrs., A. E. F., France.
- Daly, John W. Lieut., Inf. R. C.
- Danforth, George Clapp. Capt., Engr. R. C., 602d Engrs., A. E. F., France.
- Darling, Clinton Stowell. 1st Lieut., 108th Engrs., A. E. F., France.
- Darville, M. A. 2d Lieut., Engr. R. C., A. E. F., France.
- Davidson, George B. 2d Lieut., Engr. R. C.
- Davies, J. P. Capt., Ord. R. C.
- Davis, Chandler. Capt., Engr. R. C., 6th Engrs., A. E. F., France.
- Davis, Daniel E. 1st Lieut., Engr. R. C.
- Davis, Frederick A. W. 1st Lieut., Co. E, 102d Engrs.
- Davis, John C. Capt., C. A. R. C.
- Davis, Robert M. 1st Lieut., Engr. R. C., 57th Engrs. (Inland Waterways).
- Davy, J. J. 1st Lieut., 23d Engrs.
- Day, Warren E. Capt., Engr. R. C.
- Dean, Bertram D. Capt., Engr. R. C., Dept., C. and F., Headquarters, S. O. S., U. S. M. P. O. 717, A. E. F., France.
- Dean, Willis J. 1st Lieut., Q. M. C., N. A.
- de Charms, Richard, Jr. 1st Lieut., Engr. R. C., Co. A, 503d Engrs. (Service Bn.), A. E. F., France.
- Dedicke, E. C. 2d Lieut., U. S. A.
- Deiser, Norman A. 1st Lieut., Engr. R. C.
- De Leuw, Charles E. 1st Lieut., Engr. R. C., 4th Engrs.
- De Moss, Samuel. Private, School of Meteorology, Sig. C.
- Dennis, William F. Maj., Engr. R. C. (*Unassigned*).
- Dent, Elliott J. Col., Engrs., N. A., 26th Engrs., A. P. O. 765, A. E. F., France.
- Derby, George McC. Lt.-Col., Corps of Engrs., U. S. A.
- Diesem, Harry C. Capt., Engr. R. C., 404th Engr. Depot Detachment.
- Diffenderfer, Claude O. Capt., Engr. R. C., 534th Engrs., A. E. F., France.
- Dillman, George L. Maj., Engr. R. C.
- Dobson, Gilbert C. Capt., Engr. R. C., 314th Engrs.
- Dodd, Joseph H. L. 2d Lieut., B. W. I. Regt.; Burlington, St. Margaret's Bay, Jamaica.
- Doebler, Valentine S. Capt., Q. M. R. C.
- Doeleman, H. F. Maj., Q. M. C., N. A.
- Dohm, Edward Clarence. Capt., Engr. R. C.
- Doten, Leonard S. Capt., Q. M. R. C.
- Douglass, Louis R. Capt., Q. M. R. C.

- Dow, Hezekiah Shailer.** 2d Lieut., 492d Constr. Squadron, Air Service, A. E. F., France.
- Doyle, John S.** Capt., Engr. R. C.
- Drayton, Newbold.** Corporal, Battery D, 108th F. A., 53d Art. Brigade, 28th Div.
- Drew, C. D.** Capt., 11th Engrs. (Ry.), A. E. F., France.
- Drummond, William W.** Capt., Engr. R. C.
- Drury, William F.** Capt., Engr. R. C.
- Du Bois, George B.** 1st Lieut., Engr. R. C., Commanding 6th Engr. Train, 3d Div., A. E. F., France.
- Dunlap, Walter H.** 1st Lieut., Engr. R. C., 109th Engrs.
- Dunn, Beverly C.** Maj., Corps of Engrs., U. S. A.
- Dunshee, Bertram K.** 1st Lieut., Engr. R. C., 316th Engrs.
- Du Pré, Wallace Duncan.** Lieut., Q. M. C., N. A., Mech. Repair Shop Unit No. 303.
- Durham, Henry Welles.** Maj., Engr. R. C., 41st Engrs., A. E. F., France.
- Durham, Leicester.** Capt., Engr. R. C., A. P. O. 733, A. E. F., France.
- Dykeman, Conrad F.** 1st Lieut., Engr. R. C., 116th Engrs., P. O. 733, A. E. F., France.
- Eager, V. M.** Capt., Q. M. C., N. A.
- Eason, F. G.** Capt., Engr. R. C., 317th Engrs.
- Easton, Russell B.** Capt., Engr. R. C.
- Eckel, Edwin C.** Capt., Engr. R. C., Headquarters, A. E. F., France.
- Eddy, Albert C.** Capt., 55th Engrs., A. E. F., France.
- Eddy, Harold M.** Asst. Civ. Engr., U. S. N. R. F. (rank of Lieut. (Junior Grade)).
- Edgerton, G. E.** Lt.-Col., Corps of Engrs., U. S. A.
- Edmondson, Ralph S.** 1st Lieut., 27th Engrs. (Min.).
- Edwards, G. G.** Capt., Engr. R. C., Co. F, 315th Engrs.
- Elliott, J. W.** Capt., Engr. R. C., Co. A, 602d Engrs.
- Elliott, Malcolm.** Lt.-Col., Engrs., U. S. A., 309th Engrs., 84th Div., A. E. F., France.
- Elliott, Percival.** Private, Co. D, 33d Engrs.
- Ellison, Alexander H.** 1st Lieut., Engr. R. C., 3d Bn., 20th Engrs. (Forestry).
- Embury, Aymar, 2d.** Capt., Engr. R. C., Camouflage Section, A. E. F., France.
- Emerson, Raffe.** Ensign, Flying Corps, U. S. N. R. F.
- Endicott, Mordecai T.** Civ. Engr., U. S. N. (rank of Rear-Admiral).
- Enger, Arthur L.** Capt., Engr. R. C.
- Ernst, Oswald H.** Maj.-Gen., U. S. A. (Retired).
- Estes, F. E.** Capt., 17th Engrs. (Ry.), A. E. F., France.
- Everett, Ralph B.** Private, Co. F, 23d Engrs., A. E. F., France.
- Everham, Arthur C.** Maj., Q. M. C., N. A.

Fahy, Joseph Augustine. Capt., Engrs., N. A., Co. D, 518th Engrs.
Fairchild, John F. Maj., Q. M. C., Brigade Headquarters, 1st Corps Troops.

Fairlie, John Walter. 1st Canadian Exp. Force (*Retired*).

Fairman, James Robert. Capt., Engr. R. C.

Falk, Myron S. Maj., Ord. R. C.

Farley, M. M. 1st Lieut., Engr. Corps, U. S. A.

Farrin, James M. Capt., Engr. R. C.; Adj., 6th Bn., 20th Engrs., A. E. F., France.

Fassett, Earle W. 1st Lieut., Engr. R. C., 316th Engr. Train, N. A.

Feigel, John H. 1st Lieut., Engr. R. C., A. E. F., France.

Feiner, Mark A. Meteorological Section, A. S., Sig. C.

Feltham, Percy M. Capt., Engr. R. C.

Ferguson, Harry Foster. 1st Lieut., Engr. R. C., O. C. E. O., Adv. Sec., L. of C., A. P. O. 714, A. E. F., France.

Fernald, Gordon H. Capt., Engrs., N. A., Co. D, 304th Engrs.

Fickes, Clark R. Maj., Engr. R. C., A. E. F., France.

Fieberger, G. J. Col., U. S. A., Headquarters, A. E. F.

Fifer, Frank P. Capt., Engr. R. C., Lines of Communications, A. E. F., France.

Finley, C. MacF. Capt., Engr. R. C., 503d Service Bn., A. E. F., France.

Finnell, Woolsey. Maj., Engr. R. C., 501st Engrs., U. S. A. P. O. 741, A. E. F., France.

Fischer, Charles, Jr. 2d Lieut., Inf. R. C., 308th Inf.

Fisher, George Joseph. 2d Co., 4th E. R. O. T. C., Camp Lee, Va.

Fisher, Janon. Maj., Engr. R. C., 522d Engrs.

Fisk, Clinton H. Maj., Q. M. C., N. A.

FitzGerald, C. C. Maj., Engr. R. C., 32d Engrs.

Fitzgerald, Gerald C. 1st Lieut., Engr. R. C., 319th Engrs.

Fitzpatrick, F. J. Capt., Engr. R. C., Co. C, Service Bn., 508th Engrs., A. E. F., France.

Flagg, Herbert J. Capt., C. A. C., N. G. U. S.

Flagler, C. A. F. Brig-Gen., U. S. A., 5th F. A. Brigade, A. E. F., France.

Fleming, Burton P. Capt., Engr. R. C.

Flick, John K. Capt., Engr. R. C.

Flook, Lyman R. 1st Lieut., Ord. R. C.

Fogerty, Merton S. 34th Prov. Squadron, Aviation Camp, Waco, Tex.

Fogg, Alden K. Asst. Civ. Engr., U. S. N. (rank of Lieut. (Junior Grade)).

Follin, James W. 1st Lieut., San. C., N. A.

Fölling, B. N. Capt., Engrs., N. A.

- Foote, Olney N. Lieut., Co. G, 322d Inf.
Ford, William Ellis. Capt., Engr. R. C.
Forster, Arthur Oscar. Capt., Q. M. C., N. A.
Fortney, C. Page. Capt., Engr. R. C.
Foster, Ernest H. Ensign, U. S. N. R. F.
Foster, Samuel D. 1st Lieut. and A. D. C., Headquarters, 53d Artillery Brigade.
Fouilhoux, J. Andre. Capt., F. A.
Fountain, Thomas L. Capt., Engr. R. C., Care, C. O., 17th Engrs. (Ry.), U. S. A. P. O. 701, A. E. F., France.
Fowler, Charles Worthington. 1st Lieut., Sig. R. C., A. S., Commanding 485th Aero Constr. Squadron, A. E. F., France.
Fox, Henry. Capt., Engr. R. C., 314th Engrs.
Fox, Stephenson W. Maj., Engr. R. C.
Frank, George Stedman. Lieut., Sig. R. C., A. S., A. E. F., France.
Franks, John B. 1st Sergeant, Co. C, 353d Inf.
Freeman, William B. Capt., Engr. R. C., Co. A, 509th Engrs. (Service Bn.)
French, F. C. Capt., Engr. R. C., 525th Engrs.
Friedman, Harry B. Lieut., Sig. R. C., A. S.
Fries, Amos A. Col., 30th Engrs., N. A.; Chf. of Gas Service, A. E. F., France.
Froiseth, Richard E. 1st Lieut., Engr. R. C.
Frost, Edward M. Asst. Civ. Engr., U. S. N. R. F.
Fry, Alfred Brooks. Capt., U. S. N. N. V.
Fyfe, James Lincoln. Maj., Q. M. C., N. A.
Gailor, Chester F. Maj., Q. M. C., N. A.
Galbreath, Albert W. 1st Lieut., Engr. R. C., Co. B, 12th Engrs. (Ry.), A. E. F., France.
Gallagher, Leonard Bruce. 2d Lieut., Engr. R. C., Ry. Transportation Corps, U. S. A. P. O. 717, A. E. F., France.
Galloway, John D. Maj., Engr. R. C., A. E. F., France.
Galvin, James Augustine. 2d Lieut., Engr. R. C. (*Unassigned*), U. S. Army P. O. No. 714, A. E. F., France.
Garnett, Benjamin J. 1st Lieut., Engr. R. C. (*Unassigned*), A. E. F., France.
Garrett, Robert P. Capt., Ord., U. S. A.
Gartensteig, Charles. Capt., Engr. R. C., 535th Engrs.
Gatens, Ray S. 1st Lieut., Engr. R. C., Co. C, 42d Engrs., A. E. F., France.
Gausmann, Roy W. Capt., Engr. R. C., Co. D, 303d Engrs.
Gayler, E. R. Civ. Engr., U. S. N. (rank of Commander), Port au Prince, Haiti.
Geib, George Albert. Capt., Engr. R. C., Co. A, 527th Engrs., Service Bn.

- Genung, J. H., Jr. Lieut., Engr. R. C.
George, Howard H. Capt., Engr. R. C., Co. E, 305th Engrs.
Getty, Lorenzo T. 1st Lieut., Sig. C., U. S. A., A. S., 75th Aero Constr. Squadron, A. E. F., France.
Gibbs, E. A. Maj., 15th U. S. Engrs. (Ry.), A. E. F., France.
Gibbs, William Wetmore. 1st Lieut., Engr. R. C.
Giesen, Walter E. Private, U. S. M. C., Co. 269, Bn. W.
Giesting, Frank A. Maj., Engr. R. C., 302d Engrs.
Giffels, William C. 1st Lieut., Engr. R. C.
Gilman, E. Dow. 1st Lieut., Engrs., N. A., 473d Engrs.
Gladding, James N. Capt., Engr. R. C. (*Unassigned*), A. E. F., France.
Glander, John Henry, Jr. Asst. Civ. Engr., U. S. N. R. F. (rank of Ensign).
Glazier, W. L. Maj., Engr. R. C.
Goddard, Leslie Drew. Capt., Engr. R. C.
Godfrey, Alex. H. Asst. Paymaster, U. S. N. R. F.
Godfrey, Stuart C. Lt.-Col., Engrs., N. A., Headquarters, 318th Engrs., A. E. F., France.
Goethals, George R. Lt.-Col., Corps of Engrs., U. S. A.
Golden, William A. Ensign, U. S. N. R. F., U. S. S. *Mary Alice*.
Goldsmith, Clarence. Maj., Q. M. C., N. A.
Gooch, Carl Joseph. Co. E, 32d Engrs.
Goodman, Benjamin. 1st Class Private, 447th Depot Detachment, Engrs., A. E. F., France.
Goodman, Leon. Capt. and Adjt., 109th Engrs., U. S. N. G.
Gordon, John Blake. Care, Chf. Engr. Officer, General Headquarters, A. E. F., France.
Gordon, Samuel. Civ. Engr., U. S. N. (rank of Lt.-Commander).
Goss, O. P. M. Capt., Sig. R. C., A. S.
Gotwals, John C. Lieut., Corps of Engrs., U. S. A.
Gough, William J. Capt., Engr. R. C.
Gould, William T. Capt., Engr. R. C., U. S. Military P. O. 705, A. E. F., France.
Grady, Frank L. Sergeant, Co. I, 52d Pioneer Inf.
Graff, George W. 40th Co., 10th Tr. Bn., 155th Depot Brigade, Camp Lee, Va.
Grant, John R. Capt. and Adjt., Royal Engrs., H. Q., R. E., 24th Div., B. E. F., France.
Grant, Kenneth C. Capt., Sig. R. C., A. S., Headquarters, 499th Aero Squadron.
Grant, U. S., 3d. Col., U. S. A.
Gravell, William Henry. Capt., Engr. R. C., A. E. F., France.
Graves, E. M. Maj., Engr. R. C., 529th Engrs.

- Gray, Earle P.** 1st Lieut., Engr. R. C., 16th Engrs. (Ry.), A. E. F., France.
- Gray, William B.** Maj., Engr. R. C.
- Green, Charles N.** Maj., Engr. R. C.
- Green, Clarence Jasper.** 1st Lieut., Oregon Coast Artillery.
- Green, F. W.** Capt., Engr. R. C., 12th Engrs. (Ry.), U. S. Military P. O. 716, A. E. F., France.
- Greene, F. S.** Capt., U. S. N. A., Co. B, 302d Engrs.
- Greenfield, Robert A.** 303d Engrs.
- Gregory, Luther E.** Civ. Engr., U. S. N. (rank of Captain).
- Gregory, William B.** Maj., Engr. R. C., A. E. F., France.
- Grehan, Bernard H.** 1st Lieut., N. A., 312th Engrs.
- Griffin, John Alden.** Capt., Co. A, 316th Engrs.
- Grigsby, Walter B.** 1st Lieut., Engr. R. C., 9th Engrs. (Mounted).
- Grindrod, Irvin S.** 1st Lieut., Engr. R. C. (*Unassigned*).
- Griswold, Harry T.** 2d Lieut., C. A. C., N. G.
- Griswold, Hector C.** Asst. Civ. Engr., U. S. N. (rank of Lieut. (Junior Grade)).
- Griswold, Lee S.** Capt., Engr. R. C. (*Unassigned*).
- Grodske, Walter J.** Capt., Engr. R. C. (*Unassigned*).
- Gross, Frederick H.** 2d Lieut., Engr. R. C., Co. B, 303d Engrs.
- Gross, Henry McC.** 1st Lieut., 149th Div., Machine Gun Bn., A. E. F., France.
- Grunauer, Mortimer.** Headquarters Co., 304th F. A., A. E. F., France.
- Gunther, Herman Dietrich.** Co. B, 147th Inf.
- Guppy, Benjamin Wilder.** Maj., Engr. R. C., 14th Engrs. (Ry.), A. E. F., France.
- Guptill, Joseph R.** Private, Co. E, 23d Engrs., A. E. F., France.
- Gutman, David.** Maj., Engr. R. C.
- Haas, Philip L.** Capt., Engr. R. C.
- Hains, Peter C.** Maj.-Gen., U. S. A.
- Halcombe, N. M.** Capt., Royal Flying Corps, Egypt.
- Haldeman, Walter S.** Capt., Engr. R. C.
- Hale, Richard King.** Lt.-Col., 101st Field Artillery, A. E. F., France.
- Hall, Benjamin M., Jr.** 1st Lieut., Engr. R. C., Co. B, 26th Engrs., A. P. O. No. 701, A. E. F., France.
- Hall, Charles L.** Lt.-Col., Corps of Engrs., U. S. A., Headquarters, A. E. F., France.
- Hall, Gilbert G.** 1st Lieut., Engr. R. C., 20th Engrs.
- Hall, Julius R.** 1st Lieut., Engr. R. C., 515th Service Bn.
- Hall, Louis W.** Capt., Engr. R. C., Care, Director of Const. and Forestry, S. O. S., P. O. 717, A. E. F., France.
- Hall, Oliver Antrum.** Capt., Engr. R. C., 23d Engrs., U. S. A. P. O. 738, A. E. F., France.

- Hall, Warren E. Capt., Engr. R. C., Co. D, 506th Engrs. (Service Bn.), Base No. 2, A. E. F., France.
- Hallberg, Arthur S. 1st Lieut., U. S. N. R. F., U. S. S. *Quinnebaug*.
- Hamilton, Edward P. 2d Lieut., F. A. R. C., 306th Field Artillery.
- Hammond, John M. Capt., Q. M. C., N. A.
- Hanavan, William L. 1st Lieut., 9th Inf.; Adj., 2d Bn., A. E. F., France.
- Hancock, Henry Sydney, Jr. Lieut., Royal Engrs.; Field Engr., First Corps, B. E. F., France.
- Hanique, Jules E. Maj., Engrs., N. A., 537th Engrs., A. E. F., France.
- Hannan, David E. Capt., Engr. R. C., A. E. F., France.
- Hansen, Paul. Capt., Engr. R. C. Headquarters, Advance Section, S. O. S., Office of Chf. Engr., A. E. F., France.
- Hapgood, Frederic H. Co. A, 26th Engrs., A. E. F., France.
- Hardaway, Benjamin H., Jr. Maj., N. A.
- Harding, Chester. Lt.-Col., Corps of Engrs., U. S. A., Balboa Heights, Canal Zone, Panama.
- Harding, Ralph L. Capt., Engr. R. C., 35th Engrs.
- Harley, Alfred F. Field Clerk, Engr. Corps, A. E. F., France.
- Harmon, W. G. Capt., San. C., N. A.
- Harrah, O. W. Capt., Engr. R. C., 319th Engrs.
- Harris, F. R. Rear-Admiral, U. S. N.
- Harris, Frank S. M. Lieut. (Senior Grade), N. N. V.
- Harrison, William Burr. Maj., Engr. R. C.
- Hart, S. A. 1st Lieut., Engr. R. C., 23d Engrs.
- Harter, A. F. Capt., Engr. R. C.
- Harts, William W. Brig.-Gen., N. A., G. H. Q., 1^{er} Echelon, B. E. F., France.
- Hasbrouck, Oscar. Capt., Engr. R. C., 522d Engrs.
- Haskins, C. A. Capt., San. C., N. A.
- Haskins, John C. 1st Lieut., Engr. R. C., 22d Engrs.
- Hastings, R. P. 1st Lieut., Engr. R. C., Co. D, 26th Engrs.
- Hatch, Frederick N. Capt., Engr. R. C., 35th Engrs., A. E. F., France.
- Hauser, Kenneth D. Capt., 18th Engrs. (Ry.), A. E. F., France.
- Hawley, John B. Maj., Engr. R. C., 503d Engrs., Service Bn., A. E. F., France.
- Haydock, Charles. Co. 3, E. O. T. S., Camp Humphreys, Va.
- Hayes, F. Eugene, Jr. Chf. Carpenter's Mate, U. S. N.
- Hays, Donald S. Capt., Engr. R. C.
- Hays, John Coffee. Maj., Q. M. R. C.
- Hazlehurst, James Nisbet. Maj., Engr. R. C., Headquarters, S. O. S., A. E. F., France.
- Healey, Charles F. Capt., Engr. R. C., A. P. O. No. 701, A. E. F., France.

- Heck, Nicholas H. Lieut., U. S. N. R. F.
Heed, Samuel D. Capt., Ord. R. C.
Hendricks, Ernest D. Capt., Engr. R. C., Co. B, 303d Engrs.
Hendrie, John Gibson. Capt., Engr. R. C.; Adj., 2d Bn., 318th Engrs. (Sappers).
Henning, Charles S., Jr. Master Engr., Co. A, 21st Engrs., A. E. F., France.
Henry, Earle Underwood. 1st Lieut., Engr. R. C., 116th Engrs., Care, D. G. T., A. P. O. No. 717, A. E. F., France.
Herkness, Lindsay C. Lt.-Col., Corps of Engrs., U. S. A., 302d Engrs.
Herzig, Solon. 1st Lieut., Engr. R. C., Co. F, 25th Engrs., A. E. F., France.
Heslop, D. G. Capt., Royal Engrs., O. C. Surveys, Light Rys., E. E. F., Palestine.
Heuer, W. H. Col., U. S. A. (*Retired*).
Hewett, M. W. 1st Lieut., Engr. R. C., 508th Service Bn.
Hews, Wellington P. Capt., Engr. R. C., 62d Engrs., A. E. F., France.
Hickok, Clifton E. Capt., Engr. R. C.
Higgins, Charles H. Maj., Ord. Dept., U. S. A.
Hilder, Frazer C. Capt., Engr. R. C., Goring Hotel, Grosvenor Gardens, London, W. 1, England.
Hiles, Elmer K. Maj., 15th U. S. Engrs. (Ry.), A. E. F., France.
Hilton, Harry L. Asst. Civ. Engr., U. S. N. R. F.
Hirzel, Alfred Sparks. Capt., 1st Delaware Inf.
Hjorth, Lawrence R. Co. C, 302d Field Sig. Bn.
Hoad, William C. Maj., Sig. C., N. A.
Hoar, Allen. Civ. Engr., U. S. N. R. F.
Hobbs, Henry W. Maj., Engr. R. C.
Hodge, Henry W. Lt.-Col., R. T. C., N. A.; Mgr. of Roads, G. H. Q., A. E. F., France.
Hodges, H. F. Maj.-Gen., N. A.
Hoffman, Eugene R. Private, Headquarters Detachment, 26th Engrs., A. E. F., France.
Hogan, John P. Capt., 11th Engrs. (Ry.), A. E. F., France.
Holborn, Lewis A. Lieut., 22d Engrs.
Hollyday, R. C. Civ. Engr., U. S. N. (rank of Captain).
Holstlaw, Charles Henry. 1st Lieut., Inf. R. C., 124th Inf.
Holt, Andrew H. Capt., Engr. R. C.
Honeyman, Bruce R. Capt., Engr. R. C., Co. A, 313th Engrs.
Hoover, A. Pearson. Maj., Q. M. C., N. A.
Hopkinson, George Martin. Capt., Q. M. C., N. A.
Hopper, Jean G. L. Secy. to Capt. Escale, 3d Reg. de Marche, 1^{er} Etranger (Foreign Legion), 43 Avenue de l'Opera, Paris, France.
Horton, C. K. Capt., Engr. R. C.; Adj., 2d Bn., 111th Engrs.

- Horton, Dwight Fred. Capt., Engr. R. C.
- Hough, David L. Maj., Q. M. C., N. A.
- Howard, Conway Robinson. 1st Lieut., 17th Engrs. (Ry.), A. E. F., France.
- Howard, Gerald B. 1st Lieut., Engr. R. C., Co. E, 17th Engrs. (Ry.), A. E. F., France.
- Howard, Robert C. Capt., Engrs., U. S. A.
- Howe, Wilson Tyler. Capt., Q. M. C., N. A.
- Howell, Clarence S. Capt., Engr. R. C.
- Howell, George P. Col., Corps of Engrs., U. S. A.
- Howell, Robert P. Capt., Q. M. C., U. S. A.
- Hoxie, Richard L. Brig.-Gen., U. S. A. (*Retired*).
- Huber, Joseph E. Care, 1st Training Co., 5th C. A. Training Camp, Fort Monroe, Va.
- Huber, William T. Capt., Engr. R. C.
- Hudson, H. W. Maj., Staff of Director-Gen. of Transportation, Care, Director-Gen. of Transportation, A. E. F., France.
- Hughes, George L. 2d Lieut., Engrs., N. A.
- Huie, Irving V. A. Capt., Co. B, 1st Engrs., U. S. A., A. E. F., France.
- Hull, George B. Maj., Canadian Forestry Corps, Care, C. H. Ormè, Prince Rupert, B. C., Canada.
- Hull, Gordon B. Gifford. Capt., Royal Engrs., The Grange, Horton, Northampton, England.
- Hulsart, C. Raymond. Capt., Co. B, 11th Engrs. (Ry.), A. E. F., France.
- Humann, Edwin August. Private, Co. D, 4th Engrs., U. S. A.
- Humphrey, Gilbert Edwin. Maj., Corps of Engrs., U. S. A.
- Humphreys, Charles Raymond. Capt., 105th Engrs.
- Humphreys, Ewing S. 1st Lieut., Engr. R. C.
- Hunt, Charles A. Civ. Engr., U. S. N. R. F.
- Hunt, Conway B. Maj., Engr. R. C. (*Unassigned*).
- Hunt, Leigh A. Maj., 110th Engrs., A. E. F., France.
- Hurlbut, H. B. Capt., Ord. R. C.
- Hurley, John Patrick. Capt., Co. K, 165th Inf., A. E. F., France.
- Husson, William M. Capt., 82d U. S. Field Artillery.
- Husted, Alva Guy. Capt., San. C., N. A.
- Huston, Tillinghast L'Hommedieu. Maj., Engr. R. C., 1st Bn., 16th Engrs. (Ry.), A. E. F., France.
- Hyde, Charles G. Capt., San. C., N. A., Bn. 7, Co. 28.
- Hyde, Richard Lewis. 2d Lieut., Engr. R. C., 10th Engrs., A. E. F., France.
- Hynds, Harold D. 1st Lieut., Sig. R. C., A. S.
- Ingalls, O. L. Maj., Engr. R. C.
- Irish, Leland W. Master Engr., 42d Bn., 20th Engrs.

- Jackson, Dugald C. Maj., Engr. R. C., A. E. F., France.
Jackson, Jesse A. Maj., 116th Bn., 41st Div., Sig. C.
Jackson, W. B. Maj., Q. M. C., N. A.
Jacobosky, Gilbert G. Capt., Co. B, 55th Engrs., A. E. F., France.
Jacobs, Joseph. Maj., Engr. R. C., 509th Engrs. (Service Bn.), A. E. F., France.
Jacobson, Alfred Leon. Capt., Commandant, 26^{me} Batterie, 246^{me} Reg. d'Artillerie de Campagne, Secteur Postal 30, Armée Française en Campagne, France.
Jacques, Henry L. Capt., Engr. R. C.
Jaenicke, William H. 2d Lieut., Engrs., N. A.
James, Alfred R. 1st Lieut., Q. M. C., N. A.
James, Robert Lane. 2d Lieut., 17th Engrs. (Ry.), A. E. F., France.
Jaques, J. D. Civ. Engr., U. S. N. R. F. (rank of Lieut).
Jasper, T. McLean. Capt., Imperial Forces; Director of Signalling, No. 2, R. G. A., Cadet School, Maresfield Park, Sussex, England.
Jenkins, Charles M. 1st Lieut.; Supply Officer, Headquarters, 3d Bn., 20th Engrs., A. P. O. No. 721, A. E. F., France.
Jenkins, Jenks B. Maj., Engr. R. C.
Jennings, Percy J. Capt.; Adj., 5th Pioneers Canadians (late 4th Pioneers), Care, Canadian Bank of Commerce, 2 Lombard St., London, E. C., England.
Jerrard, Leigh P. 2d Lieut., Engr. R. C., Headquarters, 67th Artillery Brigade, A. E. F., France.
Jervay, Henry. Brig-Gen., N. A.
Jessup, Walter E. 1st Lieut., Engr. R. C., Co. C, 39th Engrs.
Jewell, Albert Hartwell. 1st Lieut., Sig. C., A. S.
Jewett, Thomas E. Capt., Q. M. C., U. S. A.
Johnson, Frank Melvin S. Capt., Corps of Engrs., U. S. A., 4th Div., 4th Engrs., A. E. F., France.
Johnson, George A. Maj., Q. M. C., N. A.
Johnson, Hollister. 2d Lieut., Engr. R. C., Co. C, 1st Bn., 20th Engrs., A. E. F., France.
Johnson, J. M. Lt.-Col., 117th Engrs., A. E. F., France.
Johnson, Louis R. Capt., Engr. R. C.
Jonah, F. G. Maj., Engr. R. C.; Chf. Engr., Dept., Light Rys., U. S. Army P. O. 706, A. E. F., France.
Jones, Harry E. Private, A. S., Sig. C., Meteorological Sec.
Jones, Henry L. Maj., Engr. R. C. (*Unassigned*).
Jones, John H. Capt., 1st Canadian Pioneers, B. E. F., France.
Jones, Jonathan. Capt., Engr. R. C., 23d Engrs.
Jones, Lewis Allen. Capt., Engr. R. C.
Jones, Paul Sidney. Co. 2, E. O. T. C., Camp Humphreys, Va.
Jones, Percival C. Corporal, Co. G, 23d U. S. Engrs., A. P. O. 716, A. E. F., France.

- Jones, Sidney G. Capt., Engr. R. C., Headquarters Cb., 35th Engrs., A. P. O. 735, A. E. F., France.
- Jordan, Harry E. Capt., Q. M. C.
- Joseph, Jacob. Private, Meteorological Section, Sig. C., U. S. A.
- Jouine, G. P. F. Sous Lieut. au 81^{eme} Regt. d'Artillerie, A. S. 14, par B. C. M., France.
- Judson, William V. Lt.-Col., Corps of Engrs., U. S. A.
- Kane, Daniel C. 1st Lieut., Engrs., N. A., 466th Pontoon Train.
- Kane, Irving P. Capt., Engr. R. C., 45th Engrs., A. E. F., France.
- Karnopp, Edwin B. Capt., Engr. R. C., 2d Bn., 22d Engrs.
- Kastenhuber, E. G., Jr. Capt., San. C., N. A.
- Kaufmann, Ernst G. Private, 499th Aero Squadron.
- Keenan, John T. Maj., Engr. R. C., 2d Bn., Headquarters, 28th Engrs. (Quarry), A. E. F., France.
- Keith, Gerald Marcy. Lieut., Engr. R. C., Co. B, 116th Engrs., A. E. F., France.
- Keller, Charles. Col., Corps of Engrs., U. S. A.
- Kelly, Earl W. Capt., Engr. R. C.
- Kelly, Hugh Ambrose. Lieut., Engr. R. C.
- Kelly, William. Col., Corps of Engrs., U. S. A., 117th Engrs., A. E. F., France.
- Kemp, John E. Capt., Engr. R. C.; Chf. Engr., Ordnance Depot in France, Care, J. H. Hood, 4 rue d'Auber, Paris, France.
- Keys, Edward A. Capt., Engr. R. C., Co. C, 511th Engrs. (Service Bn.), U. S. A. P. O. 708, A. E. F., France.
- Khachadoorian, H. H. 1st Lieut., Engr. R. C., Co. C, 55th Engrs.
- King, Clifford M. Capt., Engr. R. C., 313th Engrs.
- King, Eric T. Maj., Q. M. C., N. A.
- King, Howard L. 2d Lieut., Engr. R. C., Co. B, 27th Engrs.
- King, Thomas R. 1st Lieut., Engr. R. C., A. E. F., France.
- King, W. S. Capt., Q. M. R. C.
- Kingsley, E. A. Maj., Engr. R. C., A. E. F., France.
- Kingsley, George. Capt., Engr. R. C.
- Kinne, G. W. Capt., Engr. R. C.
- Kinnear, Lawrence W. 2d Lieut., Sig. R. C., A. S.
- Kipp, Frederick M., Jr. 33d Engrs., U. S. A.
- Kirby, Luther H. Capt., Engr. R. C.
- Kirschner, Charles. Student (Private), E. O. T. S., Camp Humphreys, Va.
- Kissack, A. B. Capt., Engr. R. C.
- Kitchen, Ernest. 1st Lieut., Engr. R. C.
- Kittredge, Frank A. Capt., 43d Engrs., A. E. F., France.
- Kittredge, Harry C. Capt., Engrs., U. S. A.

- Kitts, Joseph A. Capt., Engr. R. C., U. S. A. P. O. 701, A. E. F., France.
- Klinck, J. H. Maj., Q. M. C., N. A.
- Kluegel, Harry A. Capt., Q. M. R. C.
- Knight, G. W. Capt., Engr. R. C., 46th Engrs., A. E. F., France.
- Kniskern, Philip Wheeler. Capt., Engr. R. C.
- Knollman, Enno P. Ensign, U. S. N. R. F.
- Knost, W. A. 1st Lieut., C. A. R. C.
- Koop, Louis D. Capt., Q. M. C., N. A.
- Krach, Fred R. Private, Co. A, 23d Engrs.
- Kreamer, A. W. 1st Lieut., Engr. R. C. (*Unassigned*).
- Krigbaum, Lowell G. 1st Lieut., Engr. R. C., Care, Director of C. and F., A. E. F., France.
- Kutz, Charles W. Brig.-Gen., N. A.
- La Bach, Paul M. Maj., Engr. R. C., A. E. F., France.
- Labsap, Alfred H. 1st Lieut., Engr. R. C., 114th Engrs.
- La Forge, Frederick W. Maj., Engr. R. C.
- Lake, Edward N. Maj., Q. M. C., N. A.
- Lamb, Lyman C. Capt., Engr. R. C.
- Lambert, Byron J. Maj., Engr. R. C., 23d Engrs. (Highway).
- Lamphere, Frank E. Col., Q. M. C., N. A.
- Lamson, William M. Maj., Engr. R. C., 306th Engrs.
- Lancashire, Forest H. Capt., Engr. R. C.
- Land, John T. Capt., Engr. R. C.
- Lansdale, John. Capt., Engr. R. C., Military Post Office No. 701, A. E. F., France.
- La Roche, Arthur L. 1st Lieut., Engr. R. C., A. E. F., France.
- Larrison, George K. Capt., Engr. R. C., Headquarters, Hawaiian Dept., U. S. A., Honolulu, Hawaii.
- Lathbury, Benjamin Brentnall. Maj., Ord. R. C.
- Latimer, C. A. 2d Lieut., Engr. R. C., Co. E, 3d Engrs., Corozal, Canal Zone, Panama.
- Laughlin, Harmon L. Capt., Engr. R. C.; Topographical Officer, 108th Engrs.
- Laverty, Samuel Perry. Regt. Sup. Sergeant, 316th Am. Tr.
- Lawrence, Frank Elmaker. Capt., 17th Engrs. (Ry.), A. E. F., France.
- Lawton, Richard M. Maj., Engr. R. C., A. P. O. 721, A. E. F., France.
- Learned, A. P. 1st Lieut., San. C., N. A., Co. 28, Bn. 7.
- LeBaron, R. W. P. 1st Lieut., Co. C, 13th Engrs. (Ry.), A. E. F., France.
- Leckie, Alexander R. Capt., 111th Engrs., U. S. A.
- Lee, Alonzo Church. 1st Lieut., Inf. R. C., 17th Machine Gun Bn.

- Lee, Augustine L. Maj., U. S. A., C. O. 504th Engrs., Camp A. A. Humphreys, Va.
- Lee, Charles A. Lieut. (Senior Grade), U. S. N. R. F.
- Lee, Charles H. 1st Lieut., Engr. R. C., Care, Chf. Engr. Officer, A. E. F., A. P. O. 717, Water Supply Section, A. E. F., France.
- Lee, John Louis. Maj., Q. M. C., N. A.
- Leeds, Charles T. Capt., U. S. A.
- Lehrbach, Henry G. Asst. Civ. Engr., U. S. N. (rank of Lieut. (Junior Grade)).
- Leisen, Theodore A. Maj., Q. M. R. C.
- Leiser, F., Jr. 30th Tr. Bn., F. A. Central Officers' Training School, Camp Zachary Taylor, Ky.
- Leland, O. M. Lt.-Col., Engr. R. C., 303d Engrs., A. E. F., France.
- Lemen, William C. S. Capt., Engr. R. C.
- Leonard, O. Y. 1st Lieut., Ord. R. C.
- Letton, Harry P. Capt., Engr. R. C., A. E. F., France.
- Lewis, Charles Granville. Private, Co. A, 21st Engrs., A. E. F., France.
- Lewis, F. H. Maj., Engr. R. C.
- Lewis, Harold McLean. 2d Lieut., Co. A, 502d Engrs., A. E. F., France.
- Lewis, Luther H. Maj., Q. M. C., N. A.
- Libbey, V. B. Lieut., Engr. R. C., A. E. F., France.
- Lightner, George W. C. Capt. and Supply Officer, 21st Engrs. (Light Ry.), A. E. F., France.
- Lilly, Ridgely C. Lieut., Corps of Engrs. (*Unattached*), A. E. F., France.
- Lindhé, John B. Lieut., U. S. N. R. F., P. O. Box 781, Balboa, Canal Zone, Panama.
- Lineberger, Walter Franklin. Capt., Engr. R. C.
- Linsley, Charles Wells. Asst. Civ. Engr., U. S. N. R. F. (rank of Lieut. (Junior Grade)).
- Lipari, A. F. Private, A. S., Sig. C.
- Lisman, Oliver C. 1st Lieut., 519th Engrs.
- Livermore, Norman B. Capt., Engr. R. C., A. E. F., France.
- Livingston, Archibald R. Maj., Engr. R. C., 115th Engrs.
- Lockhardt, William Francis. 1st Lieut., Q. M. C.
- Lockwood, Richard J. 2d Lieut., F. A., U. S. N. A.
- Logan, Chester R. Capt., Co. C, 502d Engrs., A. E. F., France.
- Logan, Vernon L. 2d Lieut., N. A., 530th Engrs.
- Longley, Francis F. Lt.-Col., 26th Engrs., A. E. F., France.
- Lord, Arthur R. Capt., Engr. R. C.
- Louckes, Frank I. Capt., Engr. R. C., Inland Water Transportation Service, A. P. O. 702, A. E. F., France.

- Loughran, James F.** Asst. Civ. Engr., U. S. N. (rank of Lieut. (Junior Grade)).
- Lovering, Harry D.** 1st Lieut., Engr. R. C.
- Lowe-Brown, William L.** Lt.-Col., R. E. (British Army), River Plate House, Finsbury Circus, London, E. C. 2, England.
- Lucas, E. W. Van C.** Lt.-Col., 304th Engrs., N. A.
- Luigi, Luigi.** Col.; Insp. of Munition Factories in Central Italy, Via Boncompagni 17, Rome, Italy.
- Lumsden, Hugh J.** Capt., Q. M. C., N. A.
- Lund, Alfred M.** Maj., San. C., N. A.
- Lundgren, Leonard.** Capt., 116th Engrs., A. P. O. 714, A. E. F., France.
- Lynch, John F.** Capt., Engr. R. C., Co. D, 1st Bn., 1st Replacement Engrs.
- Lyon, George J.** Capt., Engr. R. C.
- Lyon, Léon E.** Maj., Railroad Transportation Corps, A. E. F., France.
- Lyons, Harold C.** 1st Lieut., Engr. R. C., Co. B, 1st Bn., 20th Engrs., A. E. F., France.
- MacDiarmid, Milo S.** Maj., Engr. R. C.
- MacGlashan, Alexander.** Maj., 104th Engrs., U. S. A.
- Machen, Henry B.** Maj., Ord. R. C.
- Macintosh, P. H. M.** Capt., Tropical Force (Australia), Officers' Camp, British Prisoners of War, Heidelberg, Germany.
- Mackenzie, Leon R.** Capt., Q. M. C.
- MacNaughton, Percival J.** Asst. Civ. Engr., U. S. N. R. F.
- Macomb, John de N., Jr.** Capt., Engr. R. C., A. E. F., France.
- McCalla, W. A.** Maj., Engr. R. C., 504th Engr. Bn. (Service), A. E. F., France.
- McCandliss, Edgar S.** Capt., Engr. R. C., 314th Engrs., N. A.
- McCandliss, L. C.** 1st Lieut., Co. D, 15th Engrs. (Ry.), Field Headquarters, A. E. F., France.
- McClean, George Thomas.** Capt., Engr. R. C., 29th Engrs., A. P. O. 702, A. E. F., France.
- McClellan, George A.** Lieut., Sig. C., A. S.
- McClintock, Hallett Edward.** Capt., Engr. R. C., Care, D., C., and F., A. P. O. 717, A. E. F., France.
- McClure, Hunter.** 1st Lieut., Engr. R. C.
- McComb, Dana Quick.** Capt., Engr. R. C., Fort Mills, Corregidor, Philippine Islands.
- McConnell, Edward Herbert.** 1st Lieut., Engr. R. C., A. E. F., France.
- McCullough, Ernest.** Maj., Engr. R. C., Gas Service, Headquarters, A. E. F., France.
- McDermith, Oro.** Capt., Engr. R. C.
- McDonald, Harry L.** Capt., Engr. R. C.

- McDonnell, Francis R. Lieut. (Junior Grade), U. S. N. R. F.
McDonough, Michael J. Col., 114th Engrs.
McFarland, H. F., Jr. 1st Lieut., Co. F, 12th Engrs. (Ry.); A. E. F., France.
McGee, Arthur B. Sergeant, Ord. Dept., N. A.
McGee, Harold G. 1st Lieut., San. C., N. A.
McGee, Roger K. Capt., Engr. R. C.
McGeehan, Paul. Capt., Co. D, 12th Engrs. (Ry.), A. E. F., France.
McGlathery, Sam L. Capt., Engr. R. C., 312th Engrs.
McGregor, Robert Roy. Capt., 21st Engrs.
McGrew, John A. Maj., Q. M. R. C.
McIntosh, Samuel F. Capt., Ord. R. C.
McKay, George A. Civ. Engr., U. S. N. (rank of Commander).
McKenney, Charles A. Maj., Engr. R. C.
McKinstry, Charles Hedges. Brig.-Gen., N. A., 67th F. A. Brigade, A. E. F., France.
McLane, G. L. Capt., Engrs., U. S. A.; Adjt., 110th Engrs.
McLoud, Paul. 1st Lieut., Engr. R. C., Co. F, 11th Engrs., A. E. F., France.
McMeekin, Charles William. Maj., Engr. R. C.
McMillan, W. Bruce. 1st Lieut., Engr. R. C., A. E. F., France.
McMullen, Clements. Lieut., Sig. R. C., A. S.
McNayr, George E. 2d Lieut., Engr. R. C., 33d Engrs.
McRae, H. C. 1st Lieut., Engr. R. C., 45th Engrs., A. E. F., France.
Maddock, Thomas. 1st Lieut., 43d Engrs.
Maddox, L. R. Capt., 17th Engrs., N. A., Regulating Station "A," Supply Office, U. S. P. O. No. 712, A. E. F., France.
Mahon, John M., Jr. Capt., San. C., N. A.
Mail, Eugene Frederick. 1st Lieut., Engr. R. C., 4th Engrs.
Malloy, John Michael. Lieut., 342d F. A.
Malsbury, Omer Evert. Capt., Engr. R. C., 3d Engrs., Corozal, Canal Zone, Panama.
Maltby, Frank B. Maj., Engr. R. C.
Mandigo, Clark R. Capt., Engr. R. C., 314th Engrs.
Mangold, John Frederic. Capt., Engr. R. C. (*Unassigned*).
Manning, William J. H. 2d Lieut., Engr. R. C., 52d Engrs., A. E. F., France.
Mansfield, Newton. Lt.-Commander, U. S. N. (*Retired*).
March, George Miles. 1st Lieut., Engr. R. C., 507th Engrs.
Marks, Edwin H. Lt.-Col., Corps of Engrs., U. S. A., 20th Engrs.
Marrian, Ralph R. 2d Lieut., Engr. R. C., Co. B, 105th Engrs.
Marshall, Robert B. Maj., Engr. R. C.
Marston, Anson. Maj., Engr. R. C.
Martin, James Walter. Capt., Engr. R. C.

- Marx, Raymond. 2d Lieut., Co. K, 308th Inf., A. E. F., France.
- Maslen, Harold C. Ensign, U. S. N. R. F.
- Massei, Caesar. Maj., Engrs., N. A., 22d Engrs.
- Massey, George B. Lieut. (Junior Grade), U. S. N. R. F.
- Massey, Walter F. Private, Co. 15, Recruit Bn., 5th Engr. Tr. Reg.,
Camp Humphreys, Va.
- Masters, F. M. Maj., Ord. R. C.
- Maul, Theodore R. Capt., Q. M. R. C., A. E. F., France.
- Maury, Dabney H. Lt.-Col. Q. M. C., N. A.
- Maxson, Frank O. Civ. Engr., U. S. N. (Retired).
- Mayo, George. Capt., Corps of Engrs., U. S. A., 5th Engrs.
- Mazeau, Camille. 1st Lieut., C. A. C., Battery F, 56th Artillery.
- Means, John S. 2d Lieut., Engr. R. C., 508th Engrs.
- Mears, Frederick. Col., 31st Engrs., N. A., A. P. O. 718, Care,
D. G. T., A. E. F., France.
- Melin, Reynold F. 1st Lieut., Ord. R. C.
- Mellon, Albert E. Capt., Heavy Artillery, A. E. F., France.
- Melton, Arthur Pomeroy. Capt., Engr. R. C., Headquarters, Lines
of Communication, A. E. F., France.
- Mendenhall, Herbert D. Capt., Engr. R. C., A. E. F., France.
- Menefee, Ferdinand N. Capt., Ord. R. C.
- Mengel, Carl W. 1st Lieut., Engr. R. C., Co. B, 306th Engrs.
- Merriam, C. A. Capt., Engr. R. C.
- Mershon, Ralph D. Maj., Engr. R. C.
- Messer, Hope Richard. Maj., Q. M. C., N. A.
- Miles, George Frederick. Capt., Engrs. N. A.; Adjt., 8th Bn., 20th
Engrs., A. E. F., France.
- Milhan, David N. 1st Lieut., Engr. R. C., Co. F, 106th Engrs.
- Milkowski, V. J. 2d Lieut., Engr. R. C.
- Miller, Charles H. Maj., Engr. R. C., 23d Engrs., 2d Bn., A. E. F.,
France.
- Miller, Daniel C. 1st Lieut., Engr. R. C.
- Miller, George S. Maj., Engr. R. C.
- Miller, Hugh. Capt., Engr. R. C.
- Miller, John O. 2d Lieut., Inf., N. A.
- Miller, K. A. Sergeant, Co. F, 603d Engrs., A. E. F., France.
- Millis, John. Col., Corps of Engrs., U. S. A.
- Mills, A. P. Capt., Engr. R. C.
- Mills, Guy G. Capt., Engrs. U. S. A., Co. 4, E. O. T. S., Camp
A. A. Humphreys, Va.
- Miner, Erwin J. Capt., Engr. R. C., 528th Engrs., Service Bn.
- Minniss, George S. Maj.; Q. M., 2d Brigade, Army Troops.
- Mitchell, Charles H. Lt.-Col., D. S. O., C. M. G., General Staff Head-
quarters, 2d Army, B. E. F., Care, Army Post Office, London,
England.

- Molitor, Frederic.** Lt.-Col., N. A.
Moller, Irving C. Maj., Engr. R. C., 23d Engrs.
Moncrieff, John M. Lt.-Col., C. B. E., R. E., 17 Waterloo Pl., London, S. W., England.
Monk, Percy S. 1st Lieut., Engr. R. C., Co. F, 2d Bn., 604th Engrs., A. E. F., France.
Monroe, Robert A. 1st Lieut., Engr. R. C., 4th Engrs.
Montgomery, Albertis. 1st Lieut., Engr. R. C.
Moore, Lewis E. Capt., Engr. R. C., A. E. F., France.
More, Charles C. Capt., Ord. R. C.
Morelock, John Earl. 2d Lieut., Engrs., U. S. A., Care, Engr. Purchasing Office, U. S. P. O. 702, A. E. F., France.
Morey, Edward F. Capt., F. A. R. C.
Moriarty, Clarence. 1st Lieut., Engr. R. C.
Morrow, B. S. Capt., Engr. R. C.
Morrow, Jay J. Brig.-Gen., N. A., A. E. F., France.
Morrow, Samuel Roy. 1st Lieut., Engr. R. C.
Morton, L. L. Capt., Engr. R. C., Co. A, 7th U. S. Engrs., A. E. F., France.
Moss, Castle P. Corporal (Reg. No. 2213329), No. 3 Co., 6th Bn., Canadian Ry. Troops, B. E. F., France.
Moss, William B. Capt., Engr. R. C., Co. D, 528th Engrs.
Mower, Harrison C. Lt.-Col., Headquarters Staff, 307th Engrs., A. E. F., France.
Muckleston, H. B. Capt., 1st Bn., Canadian Ry. Troops, B. E. F., France.
Muenster, R. A. Science and Research Div., Sig. C., A. S.
Muirhead, J. H. H. Lieut., Royal Engrs., 31 Craven St., Strand, London, W. C. 2, England.
Muñoz, Gonzalo C. Maj., Ord., N. A.
Murphy, Alvin R. Capt., Engr. R. C., Water Supply Service, A. E. F., France.
Murphy, Fred E. Capt., Ord. Dept., U. S. A.
Murphy, James J. Capt., Engr. R. C., Co. D, 523d Engrs., A. E. F., France.
Murray, Everett B. Capt., Engr. R. C., Co. A, 314th Engrs.
Musham, John William. Capt., Engr. R. C., Co. A, 513th Engrs., A. P. O. No. 738, A. E. F., France.
Myers, E. T. D., Jr. Maj., Ord. R. C.
Nagler, Floyd A. Private, Science and Research Dept., Meteorological Section, Sig. C., A. S.
Nance, A. W. 2d Lieut., Ord. C., N. A.
Nash, F. D. 1st Lieut., 12th Engrs. (Ry.), A. E. F., France.
Needham, E. S. Private, Co. A, 43d Bn., 20th Engrs.
Neel, Arthur Wood. 1st Lieut., R. T. C., N. A., Headquarters, Transportation Dept., U. S. A. P. O. No. 717, A. E. F., France.

- Nelson, Clarence L. Capt., C. A. C., Headquarters, 1st Brigade, A. E. F., France.
- Neuman, David L. Capt., Corps of Engrs., U. S. A., 5th U. S. Engrs.
- Neville, C. W. J. Lt.-Commander, U. S. N. N. V.
- Newhall, William Barrett. Capt., Engr. R. C.
- Newton, Jewett B. Capt., F. A. R. C.
- Newton, John P. Capt., Engr. R. C., A. P. O. 731, A. E. F., France.
- Nial, William A. Capt., Engr. R. C.
- Nichols, Arthur C. Sergeant, Co. B, 45th Engrs., U. S. N. A.
- Nichols, Charles H. Maj., Engr. R. C.
- Niles, Alfred Salem, Jr. 2d Lieut., Corps of Engrs., U. S. A.
- Nimmo, James Valence. Capt., Royal Engrs., Care, Henry S. King & Co., 9 Pall Mall, London, W., England.
- Nixon, Courtland. Maj., U. S. A.
- Noble, Guy L. Capt., Q. M. C., N. A.
- Nolan, S. F. Maj., C. A. C., N. G.
- Noland, C. P. Capt., Engr. R. C., 1st Engrs., A. E. F., France.
- North, Robert G. Capt., 605th Engrs.
- Noska, G. A. Capt., Engr. R. C., 303d Engrs. (Sappers).
- Nowlin, Robert A. 2d Co., E. O. T. S., Camp A. A. Humphreys, Va.
- Noyes, Arthur Page. Capt., Q. M. R. C., A. E. F., France.
- Noyes, Stephen Henley. 1st Lieut., Sig. R. C., A. S., 1st Aero Squadron, A. E. F., France.
- Oakes, John C. Col., U. S. A., 5th Engrs.
- Odoni, Vincent P. Ensign, U. S. N. R. F.
- Okes, Day I. Capt., Engr. R. C., and Adj., 42d Engrs.
- Olberg, Charles R. Capt., Engr. R. C.
- O'Meara, Robert J. 1st Lieut., 26th Engrs.
- Opdycke, Henry G. Maj., Sig. C., U. S. A.
- Openshaw, John E. Lieut., Canadian Engrs., C. E. F.; 88 Church Hill, Westmount, Que., Canada.
- Orbeck, M. J. 1st Lieut., Engr. R. C.; Bn. Adj., 528th Engrs., Service Bn., A. E. F., France.
- O'Rourke, Bernard J. 1st Lieut., Sig. R. C., A. S., 5th Constr. Bl. Co., U. S. Air Service, 35 Eaton Pl., London, S. W. 1, England.
- Ort, A. A. L. Asst. Civ. Engr., U. S. N. R. F.
- Osborne, George F. F. Maj., Royal Engrs. (British Army); 221 George St., Toronto, Ont., Canada.
- Ostrom, C. D. Y. Capt., C. A. C., U. S. A., Headquarters, 64th Artillery, A. E. F., France.
- Ostrup, John C. Maj., Engr. R. C.
- Outwater, Herbert Gregor. Capt., San. C., N. A.
- Oxer, George C. Maj., Engr. R. C., A. E. F., France.
- Pagon, William Watters. Capt., Q. M. C., N. A.

- Painter, Pennell C.** 1st Lieut., Engr. R. C., Co. D, 524th Engrs., Service Bn.
- Palmer, Wallace C. A.** Capt., Engr. R. C. (*Unassigned*), Cebu, Cebu, Philippine Islands.
- Parker, Henry B.** Paimboeuf, Loire, Inf., Care, Postmaster, New York City.
- Parker, James.** 1st Lieut., 13th Cav., U. S. A.
- Parker, William E.** Lt.-Commander, U. S. N. R. F.
- Parks, C. W.** Civ. Engr., U. S. N. (rank of Rear-Admiral); Chf. of Bureau of Yards and Docks, Navy Dept.
- Parsons, Archibald Livingstone.** Civ. Engr., U. S. N. (rank of Commander).
- Parsons, Charles E.** Capt., Engr. R. C.
- Parsons, William Barclay.** Lt.-Col., 11th Engrs. (Ry.), A. E. F., France.
- Partridge, John F.** Lieut., Engr. R. C., Co. I, 23d Engrs., A. E. F., France.
- Patrick, M. M.** Brig.-Gen., N. A., A. E. F., France.
- Patstone, Lewis F.** Maj., Engr. R. C.
- Patterson, C. S.** Lieut., Engr. R. C., 113th Engrs.
- Patterson, Laurence.** Sergeant, Co. A, 102d Engrs.
- Payne, Edwin V. R.** Lt.-Col., 25th Engrs., N. A., A. P. O. No. 716, A. E. F., France.
- Payne, Louis W.** Master Engr., Senior Grade, Headquarters Co., 2d Bn., 22d Engrs., A. E. F., France.
- Pearce, R. B.** 1st Lieut., Engr. R. C.
- Pease, H. T.** Capt., 316th Trench Mortar Battery.
- Peck, John S.** Private, U. S. A. S. M. A., Photo. Div.
- Peck, Myron Hall.** Capt., Engr. R. C.
- Pennell, J. Roy.** Capt., Engr. R. C., Co. A, 117th Engrs., A. E. F., France.
- Pense, E. H.** Lieut., Canadian Corps, Tramway Co. No. 2, C. E., France.
- Perkins, A. H.** Capt., Engr. R. C., 17th Engrs. (Ry.), A. E. F., France.
- Perkins, Roscoe, Jr.** Candidate, F. A., Central Officers' Training School, Camp Zachary Taylor, Ky.
- Perkins, Seth, Jr.** 2d Lieut., F. A. R. C., 11th Field Artillery.
- Perrin, Lester W.** Capt., 301st Inf.
- Perrine, George.** Maj., Q. M. C., N. A.
- Perry, Arthur Franklin, Jr.** 2d Lieut., Battery B, 64th Artillery, C. A. C.
- Perry, Charles E.** Capt., Engr. R. C.
- Perry, F. W.** Capt., Engr. R. C., A. E. F., France.
- Perry, Lynn E.** 1st Lieut., San. C., N. A.

- Peters, Albert A.** Maj., Engrs. N. A., Regimental Headquarters, 23d Engrs., U. S. A. P. O. 708, A. E. F., France.
- Phalan, J. J. F.** 1st Lieut., Engr. R. C.
- Philips, Hector S.** Lieut., E. T. D., St. Johns, Que., Canada.
- Philips, J. H.** Maj., Q. M. C., N. A.
- Phillips, Walter B.** Capt., Q. M. C., N. A.
- Phipps, T. E.** Capt., Engr. R. C.
- Pickett, Frank Hurd.** 1st Lieut., Engr. R. C., 1st Replacement Engrs.
- Pierce, Charles W.** Civ. Engr., U. S. N., U. S. S. *Nebraska*.
- Pierce, P. L.** Lt.-Col., Ord. Dept., N. A., Care, C. P. O., U. S. Army P. O. 702, A. E. F., France.
- Pierce-Hope, John.** (French Army), Conducteur, S. S. A., Convoi d'Automobiles, B. C. M., Paris, France.
- Pill, Leon Morley.** Capt., Engr. R. C.; Adjt., 1st Bn., 20th Engrs., A. E. F., France.
- Pillsbury, G. B.** Col., 115th Engrs.
- Pirnie, H. Malcolm.** Lieut.; Asst. Engr., Headquarters, Director-General of Transportation, A. E. F., France.
- Plank, David Harlan.** 1st Lieut., Engr. R. C., Co. B, 310th Engrs.
- Pond, Frederick H.** 1st Lieut., Co. F, 34th Engrs., A. E. F., France.
- Poole, J. H.** Maj., 16th Engrs., A. E. F., France.
- Poorman, A. P.** Capt., Engr. R. C., Co. A, 29th Engrs., Topographic Section, Intelligence Div., A. E. F., France.
- Porter, Ralph W.** Co. 3, E. O. T. S., Camp Humphreys, Va.
- Post, A. J.** Sergeant, Q. M. C.
- Post, William S.** Maj., Engr. R. C., 316th Engrs.
- Potter, Charles L.** Col., Corps of Engrs., U. S. A.
- Powell, A. O.** Maj., Engr. R. C.
- Powell, H. J. Bingham.** Staff Officer, British Ministry of Munitions in United States, 165 Broadway, Room 2700, New York City.
- Powell, Thomas J.** Capt., Engr. R. C.; Topographical Officer, 305th Engrs.
- Powell, W. J.** Capt., Engr. R. C., Co. A, 66th Engrs.
- Powelson, W. V. N.** Lieut., U. S. N. (*Retired*).
- Praeger, Emil.** Asst. Engr., U. S. N. (rank of Lieut. (Junior Grade)).
- Pratt, Arthur H.** Capt., Co. B, 26th Engrs., A. E. F., France.
- Preston, Harry L.** Capt., Engr. R. C., 22d Engrs.
- Price, Philip W.** Lieut., 3d U. S. Field Artillery.
- Price, T. E.** Lieut., C. E. F., Army Depot, Purfleet, Essex, England.
- Price, W. E.** Capt., Q. M. C., U. S. A.
- Prichett, Frederic B.** Lieut., 109th Field Artillery, Headquarters Co., 28th Div., A. E. F., France.
- Pritchard, J. C.** 1st Lieut. Engr. R. C., 26th Engrs.
- Proctor, R. F.** Maj., Q. M. R. C.
- Puckett, Homer.** Capt., Engr. R. C.

- Pugh, Marshall R. Maj., 21st Engrs. (Light Ry.), A. E. F., France.
- Pulligny, J. L. de. (Commandant); Chef de Bataillon du Genie
Horscardres, French Army, 40 rue Barbey de Jouy, Paris, VII,
France.
- Pung, William Sing-Chong. 2d Lieut., Engrs., N. A.
- Purcell, Steuart. Capt., Engr. R. C.
- Quilty, T. Frank. Maj., Engr. R. C.
- Quinby, Edwin R. Headquarters, A. E. F., France.
- Quinlan, George A. Maj., 113th Engrs.
- Quinn, John I. 1st Lieut., Engr. R. C., 116th Engrs., A. E. F., France.
- Quinn, Matthew F. Capt., Engr. R. C., 501st Engrs.
- Quinn, Richard. Maj., Engr. R. C. (*Unassigned*), Honolulu, Hawaii.
- Quinn, Thomas F. 1st Lieut., Engr. R. C., 15th Engrs., U. S. A. P. O.
741, A. E. F., France.
- Rader, James W. 2d Lieut., A. S., Sig. R. C.
- Rakestraw, C. L. 1st Lieut., Engr. R. C., 4th Engrs.
- Randolph, John Hampden, Jr. Capt., Engr. R. C., 103d Engrs.
- Randolph, Robert Isham. Maj., Engr. R. C., 23d Engrs.
- Ranney, Alfred Gardner. Capt., Battery A, 65th Artillery, C. A. C.
- Rathjens, George W. Lt.-Col., N. A., 313th Engrs.
- Ream, Ward H. 1st Lieut., Engr. R. C., Co. C, 305th Engrs., A. E. F.,
France.
- Reding, James H. Capt., U. S. N. G., Co. A, 112th Engrs., A. P. O.
763, A. E. F., France.
- Reed, Howard S. Capt., Engr. R. C.
- Reed, Paul Lyon. Civ. Engr., U. S. N. (rank of Commander).
- Reeder, Harry C. 1st Lieut., Engr. R. C.
- Rees, Bird Le Grand. Capt., Engrs., U. S. A.
- Reeves, Carl H. Maj., Q. M. C.
- Reeves, Glenn S. Co. G, 23d Engrs., A. P. O. 716, A. E. F., France.
- Reilly, Charles G. Lieut., Co. D, 313th Inf., A. E. F., France.
- Renshaw, Alfred. Capt., Engr. R. C., Headquarters Co., 302d Engrs.,
A. E. F., France.
- Reynolds, Leo F. Cadet Pilot, A. S., Sig. C., U. S. A.
- Reynolds, Ralph Whitney. 1st Lieut., Engr. R. C., 37th Engrs.
- Rhoades, Theodore E. Capt., Engr. R. C.
- Rhodes, Eric H. Lieut., Australian Field Engrs., France.
- Rice, John T. Capt., Engr. R. C.
- Rich, Melvin S. 1st Lieut., Engr. R. C., G. P. A., Labor Bureau,
A. P. O. 702, A. E. F., France.
- Richards, Walter A. 1st Lieut., A. E. F., France.
- Richardson, F. H. Capt., Engr. R. C. (*Unassigned*).
- Richardson, James H. Capt., Engrs., U. S. A.
- Richardson, R. D. Capt., Engr. R. C.

- Riché, Charles S.** Col., Corps of Engrs., U. S. A.
Richmond, Allen P. 1st Lieut., F. A. R. C., 301st Trench Mortar Battery.
Richmond, Julian P. W. Civ. Engr., U. S. N. R. F. (rank of Lieut.), 32 rue Fontaine St. Georges, Paris, France.
Richmond, W. S. Capt., Engr. R. C. (*Unassigned*).
Riddle, William C. Capt., San C.
Ridgeway, George A. 1st Lieut., Engr. R. C., 23d Engrs.
Riney, Arthur Herbert. Capt., Engr. R. C., Co. A, 28th Engrs., A. E. F., France.
Ripley, Blair. D. S. O.; Lt.-Col., 1st Bn., Canadian Ry. Troops, B. E. F., France.
Ripley, Theron M. Maj., Engr. R. C.
Risley, W. I. Capt., Engr. R. C., 504th Engr. Bn., A. E. F., France.
Ritchie, J. Milton. Capt., Q. M. R. C.
Ritow, Herman. Co. B, 302d Engrs., A. E. F., France.
Ritter, Rollin. Capt., 130th Field Artillery.
Roberts, Harry A. Capt., Engr. R. C.
Roberts, Leo Bond. Lieut., Engr. R. C., 25th Engrs.
Robertson, A. K. Lieut., Royal Anglesea R. E., No. 3 (Ry. Cos.), France.
Robertson, Fonzie E. Lieut., F. A. R. C.
Robinson, Edward W. Capt., Engr. R. C.
Robinson, Ernest F. Capt., Engr. R. C., 102d Engrs., A. E. F., France.
Robinson, John Harvey. Private, Co. B, 314th Machine Gun Bn., A. E. F., France.
Robinson, William Ernest. Lieut., Engr. R. C., Co. E, 1st Engrs., U. S. A., A. E. F., France.
Robson, Frederick T. Capt., Engr. R. C.
Robson, Ralph E. Capt., Engr. R. C., 316th Engrs.
Roby, Harrison G. Civ. Engr., U. S. N. R. F. (rank of Lieut. (Senior Grade)).
Rockenbach, S. D. Brig.-Gen., N. A., G. H., A. E. F., France.
Rockhold, J. E. 1st Lieut., Co. E, 117th Engrs., A. E. F., France.
Rogers, Lester Cushing. 333d F. A.
Ropes, E. H. Lt.-Col., Engrs., N. A.
Rose, W. H. Lt.-Col., Corps of Engrs., U. S. A.
Rosenfeld, James R. 2d Lieut., Engr. R. C., Co. D, 26th Engrs.
Rosher, Edward Marshall. Capt., O. C., Maintenance, Care, Asst. Director of Rys. Baghdad, Mesopotamia.
Ross, James G. Capt., Engr. R. C., Co. C, 306th Engrs.
Ross, Thomas A. Capt., Royal Engrs.; 2 A, Whitehall Courts, London, S. W., England.
Russell, Paul Francis. Capt., Engr. R. C.; Adjt., 2d Bn., 23d Engrs., A. E. F., France.

- Rothrock, W. P. Maj., Engrs., N. A.
Rousseau, Harry Harwood. Civ. Engr., U. S. N. (rank of Rear-Admiral).
Rowe, Donald H. Lieut., Engr. R. C.
Royal, Joseph N. 2d Lieut., Engr. R. C., Headquarters, 53d Engrs.
Royall, Edward M. Asst. Civ. Engr., U. S. N. R. F.
Ruggles, Arthur V. Capt., Engr. R. C., 17th Engrs., A. E. F., France.
Russell, William Hepbourne. 1st Lieut., 5th F. A.
Ruth, Edgar K. Capt., Engr. R. C.
Ryland, Reis J. 2d Lieut., Sig. C., U. S. A., 323d Field Sig. Bn.
Sacks, Samuel I. Officers' Material Corps, U. S. N. R. F.
Sadler, Carl L. Capt., Engr. R. C.
Sadler, Walter Clifford. 1st Lieut., Co. F, 18th Engrs. (Ry.), U. S. Army P. O. No. 705, A. E. F., France.
St. John, R. U. 2d Lieut., Sig. R. C., A. S.; Information Officer, 95th Aero Squadron, A. E. F., France.
Salisbury, Alfred J., Jr. 1st Lieut., A. S. P., N. A., Aero Squadron No. 498.
Sample, William D. Corporal, 60th Trench Mortar Battery, B. E. F., France.
Sanger, Walter M. Capt., Engr. R. C., A. E. F., France.
Sargent, Edward H. Capt., Engr. R. C., 116th Engrs., A. E. F., France.
Sargent, J. A. Capt., Engr. R. C., Care, Headquarters, Lines of Communications, A. E. F., France.
Scammell, John Kimball. Lieut., 13th Reserve Bn., Canadian, Seaford, Sussex Co., England.
Schanck, F. R. Capt., Ord. R. C.
Scharff, Maurice R. 1st Lieut., Engr. R. C.; Office, D. C. and F., S. O. U., S. O. S., A. E. F., France.
Scheidenhelm, F. W. Capt., Engr. R. C., Care, Chf. Engr., A. E. F., France.
Schermerhorn, Richard, Jr. Capt., San. C., U. S. N. A.
Schmucker, Beale M. 1st Lieut., U. S. N. G., 104th Engrs.
Schoder, Ernest W. Capt., Engr. R. C.
Scholtz, H. F. Capt., Engr. R. C.
Schoonmaker, Leon M. Capt., Engr. R. C.
Schroeder, Seaton, Jr. Asst. Civ. Engr., U. S. N. R. F.
Schwartz, Lloyd. Acting Master Gunner, Headquarters Co., 72d Artillery Regt.
Schwendener, K. DeW. Capt., 115th Engrs.
Scott, Lewis P. 1st Lieut., Engrs., U. S. A.
Scudder, Charles Morrison. Capt., Co. E, 107th Engrs., A. E. F., France.
Scudder, Henry D., Jr. 2d Lieut., U. S. G. N. A.

- Seage, Clarence E. Ensign, U. S. N.
Seelye, Seth H. Co. G, 23d Engrs., A. E. F., France.
Selander, John E. Maj., Royal Engrs., Care A. D. Rys., B. E. F., Italy.
Senior, Frank S. Maj., R. T. C. (N. A.), Care, Director General of Transportation, A. E. F., France.
Sessler, Grover C. Asst. Civ. Engr., U. S. N. R. F.
Seward, Oscar A., Jr. Capt., Engr. R. C., 315th Engrs.
Sewell, John Stephen. Col., Engrs., N. A., Commanding Base Section No. 1, A. E. F., France.
Sexton, George F. Sergeant, 1st Class.
Seymour, Horatio. 1st Lieut., Ord. R. C.
Shafer, Ernest Alton. 1st Lieut., Engr. R. C.
Shafer, J. C. F. Capt., C. A. R. C., A. E. F., France.
Shankland, Ralph Graham. 1st Lieut., Engr. R. C.
Shaw, Arthur Lassell. Capt., Engr. R. C., 301st Engrs.
Shaw, Arthur M. Maj., Engr. R. C., Mech. Repair Unit No. 305.
Shaw, Franklin Dickinson. Capt., Engr. R. C.
Shearer, D. McD. Capt., Engr. R. C., 604th Engrs.
Sheley, Horace W. Capt., Engr. R. C.
Shepard, George Milson. Capt., Co. D, 3d U. S. Engrs., Schofield Barracks, Honolulu, Hawaii.
Sheppard, Norman K. Master Engr., Junior Grade, Headquarters Co., 313th Engrs.
Sheridan, L. V. Sergeant, F. A., Saumur Artillery School, U. S. A. P. O. 718, A. E. F., France.
Sibert, William L. Maj.-Gen., U. S. A.
Silsbee, J. A. 1st Lieut., Ord. R. C.
Silvernail, Alfred Kimberly. 1st Lieut., Q. M. C., N. A.
Skelly, J. W. Capt.; Supply Officer, 12th Engrs. (Ry.), A. E. F., France.
Sleight, Reuben Benjamin. Lieut., Sig. C., U. S. A.
Sleppy, K. B. Capt., 4th U. S. Engrs.
Slifer, Hiram J. Lt.-Col., 21st Engrs. (Light Ry.), A. E. F., France.
Sloan, William Glenn. 1st Lieut., Engr. R. C. (*Unassigned*).
Sloan, William Griffith. Maj., Engr. R. C.
Small, James H., Jr. Maj., Q. M. C., N. A.
Smallman, R. A. Capt., Co. F, 25th Engrs., A. E. F., France.
Smead, R. C. Maj., Engr. R. C. (*Unassigned*).
Smillie, Ralph. Ensign, U. S. N., U. S. S. *Massachusetts*.
Smith, Albert. Maj., 2d Bn., 309th Engrs.
Smith, Alexander Crawford, Jr. 1st Lieut., Engr. R. C., Truck Co. No. 10, 23d Engrs., A. E. F., France.
Smith, Charles E. Maj., Q. M. C., N. A.

- Smith, Chester Alexander.** Capt., San. C., N. A.
Smith, Chester K. Capt., Engrs., N. A., Care, Director of Constr. and Forestry, Headquarters, S. O. S., A. E. F., France.
Smith, Claire Howland Wallace. 1st Lieut., Engr. R. C. (*Unassigned*), A. E. F., France.
Smith, Clarence Urling. Capt., Co. E, 107th Engrs., A. E. F., France.
Smith, Clarke Stull. Col., Corps of Engrs., U. S. A., Headquarters, 311th Engrs.
Smith, Earl Audie. 1st Lieut., Engr. R. C.
Smith, Edward King. 2d Lieut., Sig. R. C.
Smith, Francis M. Capt., Engr. R. C., Headquarters, 59th Engrs. (Ry.), U. S. A. P. O. 708, A. E. F., France.
Smith, Layton Fontaine. Lieut., U. S. N. R. F.
Smith, Maxwell W. Capt., Engr. R. C., Co. F, 308th Engrs., A. E. F., France.
Smith, Merritt H. Col., 1st N. Y. Field Artillery, N. G. U. S.
Smith, Richard B. Meteorological Section, A. S., Sig. C.
Smith, Robert C. Maj., Q. M. C., N. A.
Smith, S. M. 1st Lieut., Co. D, 12th Engrs. (Ry.), A. E. F., France.
Smith, W. W. Master Engr., 16th Engrs. (Ry.), A. E. F., France.
Smoot, Lloyd D. Capt., Q. M. C., N. A.
Snell, Edward Beniah. 1st Lieut., Engr. R. C.
Snodgrass, W. T. Sergeant, Co. C, 28th Engrs., A. E. F., France.
Snook, Thomas E., Jr. 1st Lieut., Engr. R. C., Co. B, 306th Engrs.
Snyder, Frederic Antes. Col., 103d Engrs.
Snyder, George Duncan. Capt., 102d Engrs.
Snyder, Hubert Earl. Capt., Engr. R. C.
Soest, Hugo C. 1st Lieut., Engr. R. C., Co. A, 25th Engrs., A. E. F., France.
Solomon, G. R. Maj., Engr. R. C.
Sourwine, J. A. Capt., Engr. R. C.
Spear, Philip H. Capt., Engr. R. C.
Spear, Walter E. Maj., Q. M. R. C.
Spencer, Charles B. Lieut., Care, Chf. Ord. Officer, P. O. 717, A. E. F., France.
Spencer, Herbert. Capt., Engr. R. C., Co. H, 23d Engrs., A. E. F., France.
Sperry, L. N. 1st Lieut., Engr. R. C., 6th U. S. Engrs., A. E. F., France.
Sprague, H. M. 1st Lieut., Engr. R. C., Care, G. P. A., Labor Bureau, A. P. O. 702, A. E. F., France.
Stafford, Fred D. Capt., Engr. R. C., 105th Engrs.
Stallings, John R. Sergeant, Headquarters Co., 3d Anti-Aircraft Bn.
Stanford, Homer R. Civ. Engr., U. S. N. (rank of Commander).

- Stanley, W. E. 1st Lieut., Engr. R. C., Co. B, 101st Engrs., A. E. F., France.
- Stanton, Charles B. Capt., Engr. R. C., Co. E, 15th Engrs. (Ry.). A. E. F., France.
- Stanton, W. L. 2d Lieut., Engrs., N. A., 304th Engrs.
- Starr, F. Charles. Capt., Q. M. C., N. A.
- Starrett, William A. Col., Q. M. C., N. A.
- Stayton, Edward M. Maj., 110th Engrs.
- Stearns, Fred LeRoy. Lieut., Co. A, 107th Inf., U. S. A.
- Stearns, Ralph H. Lieut. (Junior Grade), U. S. N. R. F.
- Steep, James B. Capt., Engr. R. C.
- Steese, James Gordon. Lt.-Col., Corps of Engrs., U. S. A.
- Steeves, C. McN. Lieut., 9th Field Co., Canadian Engrs., B. E. F., France.
- Steinberg, Max. 1st Lieut., U. S. R., U. S. Coast and Geodetic Survey.
- Stellhorn, Adolf. Capt., Engr. R. C., Office, Chf. Engr., S. O. R., P. O. 717, A. E. F., France.
- Stem, Clifford H. 2d Lieut., Engr. R. C., 101st Engrs., L. of C., A. E. F., France.
- Stephens, Uel. Lieut., 57th U. S. Inf.
- Stern, Eugene W. Maj., Engr. R. C.; Supt. of Roads, Care, C. G. Base Section No. 2, U. S. Military P. O. 705, A. E. F., France.
- Stewart, John. Maj., Engr. R. C.
- Stewart, John T. Maj., Engr. R. C.
- Stickle, H. W. Lt.-Col., U. S. A. (*Retired*).
- Stillwell, Howard L. 2d Lieut., Q. M. C., N. A.
- Stineman, Norman M. Capt., Engr. R. C., 33d Engrs.
- Stivers, A. D. Capt., Inf. R. C.
- Storey, Franklin S. 1st Lieut., Engr. R. C., A. E. F., France.
- Stowe, H. D. Capt., Engr. R. C.
- Strachan, Joseph J. Asst. Civ. Engr., U. S. N. (rank of Lieut. (Junior Grade)).
- Strachan, Norman F. Private, 23d Engrs.
- Strecker, R. A. Maj., Engr. R. C., 2d Bn., 309th Engrs., A. E. F., France.
- Street, J. Z. Private, Specialist Detachment, Co. A, 26th Engrs., A. E. F., France.
- Strehan, George E. 2d Lieut., Battery E, 351st F. A.
- Strickler, G. B. Maj., Engr. R. C.
- Strickler, T. J. Capt., Engr. R. C.
- Stronach, Robert S. Lieut., 10th Field Co., Canadian Engrs., B. E. F., France.
- Stuart, Edward. Capt., San. C., U. S. A.
- Stupp, John G. 1st Lieut., Ord. R. C.
- Sturtevant, C. W. Lt.-Col., 15th U. S. Engrs., A. E. F., France.

- Summers, R. E. J. 1st Lieut., Engr. R. C., Co. F, 15th U. S. Engrs. (Ry.), A. E. F., France.
- Suter, Russell. Capt., Engr. R. C., Care, S. E. O., Int. Sect., S. O. S., A. E. F., France.
- Sutton, Frank. Maj., Engr. R. C., 29th Engrs.
- Swaren, J. W. Capt., Engr. R. C., Headquarters, 318th Engrs. (Sappers), A. E. F., France.
- Swartz, Leon. Master Engr., 15th U. S. Engrs., A. E. F., France.
- Sweeney, Harry C. Capt., Q. M. R. C.
- Sweetser, C. H. Capt., Engr. R. C., Co. A, 43d Engrs., A. E. F., France.
- Sweetser, E. O. Capt., Engr. R. C. (*Unattached*), A. E. F., France.
- Swett, Everett H. Capt., Engr. R. C.
- Sykes, George. Capt., Engr. R. C., A. E. F., France.
- Symonds, G. R. B. Capt., Engr. R. C., Co. A, 605th Engrs.
- Tainter, F. S. Maj., Engr. R. C.
- Tate, R. L. 1st Lieut., Engr. R. C., 303d Engrs.
- Tay, S. W. Lieut., U. S. N. N. V., U. S. S. *Wenonah*.
- Taylor, Arthur. 1st Lieut., Engr. R. C.
- Taylor, Edwin A. Maj., Engr. R. C.
- Taylor, Harry. Brig.-Gen. N. A.; Chf. Engr., A. E. F., France.
- Taylor, Henry. Capt., Engr. R. C., 304th Engrs.
- Taylor, Hugh M. Maj., Care, D. G. T., A. P. O. 762, A. E. F., France.
- Taylor, Nelson. Lieut., U. S. N., U. S. S. *Bridgeport*.
- Taylor, P. M. 2d Lieut., R. E., 237th Field Co., B. E. F., Italy.
- Taylor, Seneca V. Capt., C. A. R. C.
- Taylor, William T. Capt., Royal Flying Corps, B. E. F., France.
- Taylor, Wyllys H. Capt., Engr. R. C., 306th Engrs.
- Ten Hagen, Henry. 2d Lieut., Engr. R. C., 303d Engrs.
- Tenney, Willis R. Capt., Engr. R. C., Eng. Depot, U. S. A. P. O. 712, A. E. F., France.
- Thomas, Charles D. Capt., Engr. R. C., Co. B, 507th Engrs., A. E. F., France.
- Thomas, W. E. Capt., San. C., N. A.
- Thomas, William Michael. Capt., Engr. R. C.
- Thompson, Sanford E. Maj., Engr. R. C.
- Thomsen, S. L. Capt., Engr. R. C., Co. A, 57th Engrs., A. E. F., France.
- Thomson, F. M. Capt., 39th Engrs., U. S. A., A. E. F., France.
- Thornton, L. Earle. Civ. Engr., U. S. N. R. F. (rank of Lieut.), 4 Place Iena, Paris, France.
- Throop, George H. Capt., Engr. R. C., Co. E, 24th Engrs.
- Thurber, Clinton D. Civ. Engr., U. S. N. (rank of Lt.-Commander).
- Thurston, Eugene T. Capt., Engr. R. C.

- Tilden, Charles Joseph. Capt., Engr. R. C. (*Unassigned*).
Tinsley, R. B. Capt., Engr. R. C., Co. A, 605th Engrs.
Tirrell, Charles Edwards. Sig. C., A. S. (Non-Flying).
Todd, Frank Herbert. Maj., Q. M. R. C.
Todd, Oliver J. Capt., Engrs., U. S. A., 20th Engrs., P. O. No. 708, A. E. F., France.
Tolles, F. C. 1st Lieut., Engr. R. C., 112th Engrs.
Tomlinson, Alfred Thomas. Maj., Canadian Engrs.; Insp., Small Arms Ammunition, Dominion Arsenal, Lindsay, Ont., Canada.
Tompkins, Robert Harry. 1st Lieut., 111th Engrs.
Topping, Perry. Capt., Engr. R. C., 5th U. S. Engrs.
Torrance, William M. Capt., Engr. R. C.
Townsend, C. McD. Col., Corps of Engrs., U. S. A., 12th Engrs. (Ry.), A. E. F., France.
Toyne, John Wilson. Capt., Q. M. C., U. S. A.
Tracy, C. C. Capt., C. A. R. C.
Tracy, Herbert Herman. 1st Lieut., Engr. R. C., Engr. Wagon Co. 4, 23d Engrs., U. S. A. P. O. 708, A. E. F., France.
Travers-Ewell, Andrew. Care, American Consul, Para, Brazil.
Trimpi, Allan Littell. 1st Lieut., 104th Engrs.
Trout, Alexander Linn. Capt., Engr. R. C. (*Unassigned*), A. E. F., France.
True, Albert O. Capt., Engr. R. C.
Trueblood, P. McG. Lieut., U. S. N. R. F.
Tucker, H. F. Ensign, U. S. N. R. F.
Turley, Jay. Capt., Engr. R. C., Care, Eng. Purchasing Officer, P. O. No. 702, A. E. F., France.
Turner, Daniel Norman. 2d Lieut., Engr. R. C., 304th Engrs.
Turner, Nathaniel Parker. Capt., U. S. N. G.; Topographical Officer, 111th Engrs.
Tuska, Gustave R. Maj., Engr. R. C.
Tyler, Richard G. Capt., Q. M. C., N. A.
Tyson, William C. Capt., Engr. R. C., Co. No. 2, Camp Custer Replacement Draft, A. E. F., France.
Uhler, W. D. Lt.-Col., Q. M. C., N. A.
Van Buren, Maurice Pelham. Capt., Corps of Engrs., 602d Engrs.
Vandemoer, N. C. Capt., Engr. R. C.
Vandervoort, B. F. Capt., Engr. R. C.
Vandevanter, Elliott. Capt., Engr. R. C., Co. D, 503d Engrs., A. E. F., France.
Van-Ness, R. A. Lieut., Engr. R. C.
Van Pelt, Sutton. Capt., Engr. R. C., 110th Engrs.
Van Suetendael, Achille O. Capt., Engr. R. C.
Van Zile, Harry Lee. Maj., Engr. R. C., A. E. F., France.

- Vaughan, Henry F. Capt., San. C., N. A.
Verrill, George E. Maj., Engr. R. C.
Vincent, W. H. 1st Lieut., Engr. R. C.
Vogleson, J. A. Maj., San. C., N. A.
Volk, Wendell Douglas. 1st Lieut., Engr. R. C., Co. E, 20th Engrs., A. E. F., France.
von Deesten, A. P. Maj., Corps of Engrs., U. S. A.
Wade, George W. 1st Lieut., Co. D, 2d Bn., 117th Engrs. 42d Div., A. E. F., France.
Waldron, George R. Maj., Sig. C., U. S. A.
Wadsworth, Henry H. Maj., Engr. R. C. (*Unassigned*).
Wagner, John, Jr. 1st Lieut., Cav. R. C., First Corps School, Army P. O. No. 703, A. E. F., France.
Waite, Clement F. 1st Lieut., Engr. R. C.
Waite, H. M. Lt.-Col., R. T. C., N. A., Care, Railroad Transportation Corps, A. E. F., France.
Waldron, Albert E. Col., 35th Engrs., U. S. A., A. E. F., France.
Walker, Edward G. Lieut., R. N. V. R.; 78 Cheyne Court, Chelsea, London, S. W. 3, England.
Walker, Elton D. Capt., Engr. R. C., Co. A, 5th U. S. Engrs., A. E. F., France.
Walker, Harry Bruce. Capt., Engr. R. C.
Walker, Meriwether Lewis. Col., Engrs., N. A., G. H. Q., A. E. F., France.
Walker, W. Kemp. Capt., Engr. R. C.
Wallace, David A. Capt., Engr. R. C., Headquarters, Director General of Transportation, A. P. O. 717, A. E. F., France.
Wallace, Harold U. Maj., Engrs., N. A.
Waller, Alexander C. 1st Lieut., Engrs., U. S. A., 22d Engrs., A. E. F., France.
Waller, Percy. Capt., Engr. R. C.
Walter, Frank E. 1st Lieut., Co. B, 55th Engrs., A. E. F., France.
Walton, H. B. Capt., Engr. R. C., 312th Engrs.
Wanzer, James O. 1st Lieut., 47th Engrs., A. E. F., France.
Ward, George S. 2d Lieut., Engr. R. C., Co. A, 117th Engrs., A. E. F., France.
Ward, Jasper D. Corporal, Co. C, 55th Inf.
Ward, Lyman Wise. Capt., C. A. R. C.; Adjt., 1st Bn., 63d Artillery, C. A. C.
Ware, Howard T. 2d Lieut., Q. M. C., N. A., Bakery Co. No. 317.
Ware, John. 1st Lieut., Co. A, 101st Engrs., A. E. F., France.
Ware, Norton. Capt., Engr. R. C.
Warfield, Ralph M. Civ. Engr., U. S. N. (rank of Lt.-Commander).
Waring, C. T. Maj., Sig. R. C.

- Warner, Elwin S. Capt., Engr. R. C., Co. B, 301st Engrs.
Warnock, W. H. Capt., Q. M. C., N. A.
Warren, Horace P. Maj., 55th Engrs., N. A., A. E. F., France.
Warren, James G. Col., Corps of Engrs., U. S. A.
Warren, Minton M. 1st Lieut., Engr. R. C., Headquarters Co., 101st Engrs., 51st Brigade, 26th Div., A. E. F., France.
Warren, Philip R. Maj., Royal Engrs., P. C. E., A. P. O. S. 10, B. E. F., France.
Watkins, Guy A. Capt., Engr. R. C.
Watson, D. M. Lieut., M. T., A. S. C., 100th Siege Battery, R. G. A., B. E. F., France.
Watson, George L. Capt., Co. B, 30th U. S. Engrs.
Watson, Winslow B. 1st Lieut., 106th Inf.
Watt, David A. Maj., Engr. R. C.
Waugh, William H. Maj., Engrs., N. A.
Way, W. F. 2d Lieut., Co. D, 18th Engrs. (Ry.), U. S. Army Post Office No. 705, A. E. F., France.
Weaver, C. J. 1st Lieut., Engr. R. C.
Weaver, Earll Chase. Asst. Civ. Engr., U. S. N. R. F.
Weaver, Frank L. Capt., Engrs., N. A., 305th Engrs.
Webb, Claude A. Lieut., F. A. R. C., A. E. F., France.
Webb, De Witt Clinton. Civ. Engr., U. S. N. (rank of Lt.-Commander).
Webb, George H. Lt.-Col., 16th U. S. Engrs. (Ry.), A. E. F., France.
Webb, I. Gano. Capt., Engr. R. C.
Webb, Walter Loring. Maj., Engr. R. C., A. E. F., France.
Webster, Maurice A. Capt., Ord. Dept., N. A.
Weeks, W. C. Maj., Engrs., N. A., 32d Engrs., Care, Y. M. C. A. Hotel for Officers, Paris, France.
Welden, Ernest. Private, Co. A, 43d Engrs., A. E. F., France.
Welles, Theodore L., Jr. 2d Lieut., Engr. R. C.
Welsh, Russell D. Private, Co. F, 115th Engrs., A. E. F., France.
Wenige, Arthur E. Maj., Engr. R. C., 317th Engrs.
Wenzell, Andrew P. Capt., Co. F, 16th U. S. Engrs. (Ry.), A. E. F., France.
West, Edward Hazzard. Capt., Engr. R. C., 5th Engrs.
West, Wade C. Capt., Engr. R. C.
Wheat, G. Neville. Capt., Engr. R. C.
Wheeler, Frank I. 2d Lieut., Sig. R. C., A. S.
Wheeler, Robert C. Capt., Q. M. C., U. S. A.
Wheelock, De Forest A. Col., U. S. A.
Whiteaker, Robert O. Capt., 132d Field Artillery.
Whitman, Ezra B. Maj., Q. M. R. C.
Whitman, Ralph. Civ. Engr., U. S. N. (rank of Lt.-Commander).

- Whitney, John T. 2d Lieut., F. A. R. C., 2d Corps Artillery Park, A. E. F., France.
- Whitney, Ralph Edward. 1st Lieut., San C., N. A.
- Whitwell, E. Capt., General Service Staff, British War Office, Robert Treat Hotel, Newark, N. J.
- Wickersham, John H. Maj., Engr. R. C., P. O. 706, A. E. F., France.
- Widdicombe, R. A. Maj., Engr. R. C.
- Widdicombe, Stacey H. U. S. S. M. A., Princeton, N. J.
- Wiggin, Thomas H. Capt., Engr. R. C., Headquarters, Lines of Communications, A. E. F., France.
- Wiggins, Ralph Raymond. 1st Lieut., Sig. R. C., A. S.
- Wilcox, Ernest Hardwick. Capt., Engr. R. C.
- Wild, H. J. Capt., Engr. R. C., 3d Engrs., Corozal, Canal Zone, Panama.
- Wildish, Frederic Newton. Capt., Engr. R. C., Co. B, 309th Engrs.
- Wilgus, W. J. Col., Engrs., N. A., A. E. F., France.
- Willard, George T. Private, Co. E, 318th Engrs.
- Willard, N. R. Capt., Engr. R. C.
- Williams, Alan F. 2d Lieut., Co. B, 18th Engrs. (Ry.), U. S. Army P. O. No. 705, A. E. F., France.
- Williams, Samuel W. Maj., Engr. R. C.
- Williamson, Harry. Capt., Royal Engrs.; O. C. 272d Ry. Constr. Co., R. E., A. E. F., Egypt.
- Williamson, Lee H. 2d Lieut., Engr. R. C., Co. A, 55th Engrs.
- Williamson, Sydney B. Lt.-Col., Engrs., N. A.
- Williar, Harry D., Jr. 1st Lieut., 1st U. S. Engrs., A. E. F., France.
- Willis, Walter John. Lieut. (EDO).
- Wilson, Edbert C. Capt., Engr. R. C.
- Wilson, Everitt W. Capt., Engr. R. C., Co. A, 304th Engrs.
- Wilson, Harry P. Capt., Engr. R. C., 310th Engrs.
- Wilson, Robert B. M. Capt., Engr. R. C., 311th Engrs.
- Wilson, William R. Maj., 23d Field Co., R. E., B. E. F., France.
- Wing, Charles B. Maj., Engr. R. C., 23d Engrs., A. P. O. 738, A. E. F., France.
- Winn, Walter E. Lt.-Col., Engrs., U. S. A., 114th Engrs., A. E. F., France.
- Winn, Walter S. Maj., Engr. R. C.
- Winton, Walter Ferrell. Capt., 14th U. S. Field Artillery.
- Wood, B. Russell. Capt., Engr. R. C. (Unassigned), U. S. M. P. O. 733, A. E. F., France.
- Wood, Frederic J. Maj., Engr. R. C.
- Woodard, Wilkie. Capt., Engr. R. C., Co. H, 35th Engrs., A. P. O. 735, A. E. F., France.
- Woodle, Bernon Tisdale. Capt., Engr. R. C.

Woodruff, Glenn B. 1st Lieut., Engr. R. C.
 Woolworth, W. H. Capt., U. S. A., Headquarters, 2d Brigade, 1st
 Div., A. E. F., France.
 Wooten, William P. Maj., Corps of Engrs., U. S. A.
 Wright, John Bertram. Capt., Engr. R. C.
 Wrightson, William D. Maj., San. C., N. A.; Chf. of San. C., U. S. A.
 Yates, Sheldon S. Field Artillery Officers' Training Camp, Camp
 Zachary Taylor, Ky.
 Yeo, W. H. W. Capt., Engr. R. C.
 Yereance, Alex. W. 1st Lieut., Co. F, 305th Engrs., A. E. F., France.
 Yost, Howard McC. Capt., Engr. R. C.
 Young, Frederick C. Capt., Engr. R. C.; Adjt., 114th Engrs.
 Young, George S. Capt., Engr. R. C.
 Young, Samuel M. Capt., Engr. R. C.
 Zinn, George A. Col., Corps of Engrs., U. S. A.

MEMBERSHIP

(From August 9th to September 5th, 1918)

ADDITIONS

MEMBERS	Date of Membership.
COMBER, STAFFORD XAVIER. Chf. Engr., Govt. } Assoc. M. Jan. 7, 1913	
Coast Defence Works, Georgetown, } M. May 13, 1918	
British Guiana.....	
COWEN, KARL DANIEL. 12012 Saywell Ave., Cleveland, Ohio.....	May 13, 1918
JENNINGS, FRANK WASHBURN. Civ. and Municipal Engr. (The Jennings-Lawrence Co.), 511 Hartman Bldg., Columbus, Ohio.....	April 16, 1918
LAWRIE, JAMES ALBRO. Office Engr. and Chf. Draftsman, Duluth, Missabe & North. Ry., 401 Wolvin Bldg., Duluth, Minn.....	Mar. 12, 1918

ASSOCIATE MEMBERS

BOOTH, RAYMOND. 1st Lieut., Engrs., U. S. A., } Jun. June 30, 1911	
54th Engrs., Camp Dix, N. J.; Address, } Assoc. M. May 13, 1918	
30 Center St., City Island, N. Y.....	
HOYT, HARLAND MARION. Gen. Supt. of Constr. and Contr. Engr., Western Office, The Security Bridge Co., Box 384, Lewiston, Idaho.....	May 13, 1918
JONES, GEORGE PAXSON. Estimator and Designer, Virginia Bridge & Iron Co., 314 Woods Ave., S. W., Roanoke, Va.....	May 13, 1918
MINI, THEODORE ROBERT. 276 North Fremont Ave., Los Angeles, Cal.....	June 18, 1918
ROWE, WALTER ELLSWORTH. 1431 Pendleton St., Columbia, S. C.....	April 16, 1918
WELDEN, ERNEST. Private, Co. A, 43d Engrs., Am. Exp. Forces, France; Address, Box 332, Eldora, Iowa....	April 16, 1918

JUNIORS

ADAMS, WALTER FRANCIS. Sergeant, 23d Engrs., Am. Exp. Forces, France; Address, 1812 Twenty-first St., Bakersfield, Cal.....	Mar. 12, 1918
HOWELL, ERIC VAIL. Southampton, N. Y.....	June 18, 1918
HURLEY, JOHN JAMES. Sales Engr., Truscon-Steel Co., 146 Summer St., Boston, Mass.....	April 16, 1918

CHANGES OF ADDRESS

MEMBERS

ADDIS, WILLIAM GEORGE. Insp. of Constr. Materials, Q. M. C., U. S. A., Pittsburgh Dist. Office, 6063 Jenkins Arcade, Pittsburgh, Pa. (Res., 64 Somerset Ave., Winthrop, Mass.)	
--	--

MEMBERS (*Continued*)

- ALDEN, HERBERT CLARENDON. 1st Lieut., C. A., U. S. A., Fort Totten, N. Y.
- BIGGS, JOSIAH ACKERMAN, JR. (Cactus Food Products), 1034 Central Bldg., Los Angeles, Cal.
- BROWN, PERRY FISHER. Key Route Inn, Oakland, Cal.
- BUEL, ALBERT WELLS. Superv. Engr., Care, Maj. W. P. Rothrock, Pierie Plant, Grand Rapids, Mich.
- BURT, HENRY JACKSON. Maj., Q. M. C., N. A., College Park, Md.
- BUSH, LINCOLN. Col., Q. M. C., U. S. A., 7th and B Sts., S. W., Washington, D. C.
- CAMERON, JOHN BOBBS. Care, Whitney Co., Bethlehem, Pa.
- CASE, MONTGOMERY BABCOCK. 29 Scottwood Apartments, Toledo, Ohio.
- CHAPPELL, THOMAS FENNING. Kensington, Ohio.
- CHARNLEY, WALTER. 1st Lieut., Engrs., U. S. A., Co. 3, E. O. T. C., Camp Humphreys, Accotink, Va.
- CHRISTIE, WILLIAM WALLACE. Cons. Engr., 66 West Ridgewood Ave., Ridgewood, N. J.
- COOKSEY, ROBERT MAVIN. Maj., Q. M. C., 2-210, Seventh and B Sts., S. W., Group C, Washington, D. C.; Address, Highways Engr., City Hall, Baltimore, Md.
- CORY, HARRY THOMAS. Care, U. S. Reclamation Service, Washington, D. C.
- CROWNOVER, CHARLES ELMER. Asst. Constr. Engr., U. S. Reclamation Service, Yakima, Wash.
- CRUMP, RALPH LEE. Track Constr. Engr., Emergency Fleet Corporation, Philadelphia, Pa. (Res., Merchantville, N. J.).
- DAHM, SVERRE. Deputy Engr., Subway Constr., Public Service Comm., First Dist., 49 Lafayette St., New York City.
- DAVIS, LEONARD HENRY. Forty-second Street Bldg., Room 1624, New York City.
- EDMONDSTONE, GEORGE STOVALL. Asst. Engr. in Chg. of Constr., The Comm. of Public Docks, City of Portland, P. O. Box 321, St. Johns Sub-Station, Portland, Ore.
- ELLIOTT, MALCOLM. Lt.-Col., Engrs., N. A., 309th Engrs., 84th Div., Am. Exp. Forces, France.
- EWEN, JOHN MEIGGS. Cons. Engr., French American Construction Corporation, 81 rue St. Lazare, Paris, France.
- FELTHAM, PERCY MARSHALL. Capt., Co. 1-B, E. O. T. C., Camp Humphreys, Va. (Res., Edgecliff, S. C.)
- FETHERSTON, JOHN TURNER. Constr. Mgr., Air Nitrates Corporation, Muscle Shoals, Sheffield, Ala. (Res. 44 West 9th St., New York City).
- FISHER, HOWELL TRACY. Engr., Fraser, Brace & Co., Room 1028, Marbridge Bldg., New York City.
- FREELAND, CHESTER SHEPARD. Engr., Redwood Mfrs. Co., Pittsburg, Cal.
- GRAVES, WALTER JOSEPH. Safety Engr., Michigan Mutual Liability Co., 1640 New Penobscot Bldg., Detroit, Mich.

MEMBERS (Continued)

- HAGEMAN, HARRY ANDREW. Mech. Engr., Bethlehem Shipbuilding Corporation, Ltd., Bethlehem, Pa.
- HARRIS, GUY WALTER. Chf. Engr., A. T. & S. F. Ry. System, Room 1015, Ry. Exchange Bldg., Chicago, Ill.
- HAWKSLEY, KENNETH PHIPSON. 62 Broadway, Westminster, S. W. 1, London, England.
- HIGGINS, CHARLES HOUCHIN. Maj., Ord. Dept., U. S. A.; Cons. Engr., 126 East 38th St., New York City.
- HOWELL, ROBERT PARSONS. Capt., Q. M. C., Care, Utilities Quartermaster, Camp Gordon, Atlanta, Ga. (Res., 93 South Main St., Phillipsburg, N. J.)
- KASTL, ALEXANDER EDWARD. Eng. Dept., Public Utilities Comm., Springfield, Ill.
- KEENAN, JOHN THOMAS. Maj., Engr. R. C., 2d Bn., Headquarters, 28th Engrs. (Quarry); Am. Exp. Forces, France.
- LANGTHORN, JACOB STINMAN. Care, Air Nitrates Corporation, 469 Fifth Ave., 10th Floor, New York City.
- MACHEN, HENRY BENNETT. Maj., Ord. R. C.; Res., 202 Riverside Drive, New York City.
- MCCULLOCH, ROBERT AUSTEN. Project Mgr., U. S. Housing Corporation, Bureau of Housing and Transportation, Dept. of Labor, 613 G St., N. W. (Res., 120 C St., S. E.), Washington, D. C.
- MANLEY, LAURENCE BRADFORD. Constr. Engr., Monks & Johnson, 1825 Wylie St. (Res., 143 East Washington Lane), Philadelphia, Pa.
- MARSTON, ANSON. Maj., Engr. R. C.; Dean of Eng., Iowa State Coll., Ames, Iowa.
- MEARS, FREDERICK. Col., 31st Engrs., N. A., Care, D. G. T., A. P. O. 718, Am. Exp. Forces, France.
- MERRILL, ROBERT HALL. Prin. Asst. Engr., Grand Canal Survey, Siems-Carey R. R. & Canal Co., Care, American Consulate, Shanghai, China.
- MONCRIEFF, JOHN MITCHELL. Lt.-Col., C. B. E., R. E.; 17 Waterloo Pl., London, S. W. 1, England.
- MUSSON, CHARLES AUGUSTIN WOODLEY. 1709 Thirty-fifth Ave., Seattle, Wash.
- PARSONS, CHARLES EDWARD. Capt., Engr. R. C.; Cons. Engr., 61 Broadway, New York City.
- PATSTONE, LEWIS FREDERICK. Maj., Engr. R. C., Camp Lee, Petersburg, Va.
- PAYNE, EDWIN VAN RENSSELAER. Lt.-Col., 25th Engrs., N. A., A. P. O. No. 716, Am. Exp. Forces, France.
- PHARR, HARRY NELSON. Chf. Engr., St. Francis Levee Board, Bridge Junction, Ark.
- PHELPS, WILLIAM COLLINS. 3342 West 57th St., New York City.
- PORTER, SAM GRAHAM. Supt. of Operation and Maintenance, Lethbridge Irrig. Section, C. P. Ry., P. O. Box 428, Lethbridge, Alberta, Canada.

MEMBERS (Continued)

- REEVE, LEROY NORMAN. Structural Engr., Am. International Shipbuilding Corporation, Hog Island, Pa.
- RHEA, FRANK. Commercial Engr., Bureau of Foreign and Domestic Commerce, 607 South 1st St., Pulaski, Va.
- SHANNON, WILLIAM DAY. Chf. Insp., Hull Fabrication, Am. International Shipbuilding Corporation, Room 17, Ship Administration Bldg., Hog Island, Pa.
- STRICKLER, GRATZ BROWN. Maj., Engr. R. C.; Const. Q. M., Camp Hancock, Ga.; Address, 615 Colorado Bldg., Washington, D. C.
- SULLIVAN, JOHN G. Cons. Engr., 703 McIntyre Blk., Winnipeg, Man., Canada.
- TAYLOR, HUGH McGEHEE. Maj., Care, D. G. T., A. P. O. 762, Am. Exp. Forces, France.
- VANCE, WILLIAM HERBERT. Engr., M. of W., St. Louis S. W. Ry. Lines, Ry. Exchange Bldg., Room D-17, St. Louis, Mo.
- WICKERSHAM, JOHN HOUGH. Maj., Engr. R. C., P. O. 706, Am. Exp. Forces, France.
- WING, CHARLES BENJAMIN. Maj., Engrs., U. S. A., 23d Engrs., A. P. O. 738, Am. Exp. Forces, France.
- ZINN, AARON STANTON. Care, Air Nitrates Corporation, 360 Madison Ave., New York City.

ASSOCIATE MEMBERS

- ACKER, ROBERT LOUIS. Corporal, Headquarters Co., 7th Field Artillery, Am. Exp. Forces, France.
- ADAMS, WILLIAM HENRY. Capt., Q. M. C., N. A.; Asst. to Officer in Chg. of Constr. Div., Washington, D. C.; Cons. Engr. (Adams & Cummins), Kresge Bldg., Detroit, Mich.
- ALLEN, JOHN LEE. Seey., Fulton Asphalt Co., 6845 Gorsten Ave., Stenton, Philadelphia, Pa.
- ALLEN, MAYNARD EDWARD. Vice-Pres. and Treas., Bailey & Allen Co.; Structural Engr., Mobile Shipbuilding Co., Mobile, Ala.
- BAKER, JOHN JOSEPH. Care, Water Supply Comm., Harrisburg, Pa.
- BANNISTER, CARL LENCOLN. 102 West Beard Ave., Syracuse, N. Y.
- BEAN, PAUL JONES. Civ. Engr., U. S. N.; 743 Third Ave., North, Troy, N. Y.
- BEE, CHARLES EVERETT. Care, H. E. Blake, Elsmere, N. Y.
- BENSON, HENRY CRIST. Res. Supt., Georgia Ry. & Power Co., Wiley, Ga.
- BESSELIEVRE, EDMUND BULKLEY. Engr., Sanitation Section, Eng. Section. Constr. Div., War Dept., Washington, D. C. (Res., 39 West 39th St., Bayonne, N. J.)
- BIRDSEYE, CLAUDE HALE. Maj., Engrs., U. S. A., Office, Chf. of Artillery, A. P. O. 706, Am. Exp. Forces, France.
- BLISS, TULLA ETHAN. Dist. Engr., St. L. S. F. Ry., 2101 Jefferson County Bank Bldg., Birmingham, Ala.
- BORDEN, GUY. Co. 2, E. O. T. C., Camp Humphreys, Va.

ASSOCIATE MEMBERS (*Continued*)

- BRADBURY, RICHARD ROBERTSON. Pleasantville, N. Y.
- BROGAN, THOMAS BYRNES. 567 Sixth St., Brooklyn, N. Y.
- BRONSON, HOWARD FRANKLIN. Capt., San. Corps; Camp San. Engr., Care, Surgeon's Office, Camp Upton, N. Y.; Address, Riverhead, N. Y.
- BROOKE, GEORGE DOSWELL. Room 117, Broad St. Station, Philadelphia, Pa.
- BROWN, ELBERT CALVIN. Capt., Engrs., U. S. A., Camp Lee, Petersburg, Va.
- BUZZELL, JOSIAH WILLIAM. Dist. Mgr., Div. of Constr. and Eng., Stone & Webster, 120 Broadway, Room 3733, New York City (Res., Hotel Burlington, Washington, D. C.).
- CARPENTER, JOHN SCHRODER. Hydr. Engr., 560 East Cecil St., Springfield, Ohio.
- CATLIN, HAROLD BURD. Civ. Engr., The International Nickel Co. of Canada, Ltd., Port Colborne, Ont., Canada.
- CHAMBERLIN, CHARLES GROVER. Research Dept., Scovill Mfg. Co., Waterbury (Res., Three Acres, Mount Carmel), Conn.
- CLOUGH, ALBERT HASKELL. Engr., Technical Dept., Giant Powder Co., Con., 807 First National Bank Bldg., San Francisco, Cal.
- CONVERSE, JOSEPH BRANDLY. Lieut., U. S. A., Constr. Div., Camp Utilities, Camp Sheridan (Res., 433 Church St., Selma), Ala.
- COY, BURGIS GREENACRE. Capt., Engrs., Co. D, 314th Engrs., Am. Exp. Forces, France.
- CRAIG, JOSEPH EDWIN. Cons. Engr. for City of Jacksonville; Hydr. and Elec. Engr., Lockwood, Greene & Co., Chamber of Commerce Bldg., Jacksonville, Fla.
- CRITES, GEORGE SOLOMON. Div. Engr., B. & O. R. R., Room 33, Camden Station, Baltimore, Md.
- DEAN, STANLEY. Chf. Engr., Dept. of Const. Q. M., Camp A. A. Humphreys, Va.
- DE LARA, FRANK BELASCO. Care, Am. Metal Co., Ltd., 61 Broadway, New York City.
- DODGE, BERT E. With Concrete Ship Div., U. S. Shipping Board, Washington, D. C. (Res., 1244 South 45th St., Philadelphia, Pa.)
- EAGER, VERNON MILTON. Capt., Q. M. C., N. A.; Asst. Superv. Const. Q. M., Terminals and Warehouses, Const. Branch of Constr. Div., War Dept., 7th and B Sts., Room 2-318, Bldg. C, Washington, D. C.
- ELTINGE, ORVILLE LAMONT. 31 Green St., Kingston, N. Y.
- EMORY, LLOYD TILGHMAN. Cons. Civ. and Industrial Engr. (Emory & Eisenbrey), 919 Harrison Bldg., Philadelphia, Pa.
- FELGENHAUER, FRANK JOHN. Deputy Chf. of Constr., Housing Branch, U. S. Shipping Board, Emergency Fleet Corporation, Philadelphia, Pa. (Res., Crestwood Ave., Hollis, N. Y.)
- FINLEY, GUY CEPHAS. Supt. of Constr., U. S. Reclamation Service, Yakima, Wash.
- FISHER, WARD HERBERT. R. F. D., McCordsville, Ind.

ASSOCIATE MEMBERS (*Continued*)

- GALLAGER, JAMES PELTON. Care, Merchant Shipbuilding Corporation, Room 206, Administration Bldg., Harriman, Pa.
- GELWIX, DANIEL EDMUND. Dist. Engr., St. Louis-San Francisco Ry., 419 Frisco Bldg., Springfield, Mo.
- GERWICK, BEN CLIFFORD. Constr. Engr., Healy Tibbitts Constr. Co., San Francisco (Res., 1351 Arch St., Berkeley), Cal.
- GILBERT, ARCHIBALD MARVINE. Mills Bldg., San Francisco, Cal.
- GRAVES, GEORGE AUGUSTUS. Draftsman, Massachusetts Highway Comm., Room 212, State House, Boston, Mass.
- GRAY, EDWARD. Care, Westinghouse, Church, Kerr & Co., 614 North Wood Ave., Florence, Ala.
- GRAY, JOHN LATHROP. 115 Broadway, Room 1114, New York City.
- GRIFFIN, GEORGE APPLETON. Care, Island Oil & Transport Corporation, New Bedford, Mass.
- GRODSKE, WALTER JOHN. Capt., Engr. R. C. (*Unassigned*), 418 Cass St., Milwaukee, Wis.
- HAGGART, CECIL NEIL. Contr. and Engr., P. O. Box 906, Narberth, Pa.
- HALL, OLIVER ANTRUM. Capt., Engr. R. C., 23d Engrs., A. P. O. 738, Am. Exp. Forces, France.
- HALL, WARD. Asst. Engr., R. R. Comm. of California, 5852 Ocean View Drive, Oakland, Cal.
- HARRAH, ORIN WILSON. Capt., Engr. R. C., 319th Engrs., Fort Benjamin Harrison, Ind.
- HASKINS, CHARLES ARTHUR. Capt., San. Corps, N. A., 210 Folkstone Court, Washington, D. C.
- HAYDOCK, CHARLES. Co. 3, E. O. T. S., Camp A. A. Humphreys, Va.
- HAYES, FERDINAND EUGENE, JR. Chf. Carpenter's Mate, U. S. N., Bureau of Yards and Docks, 19th and B Sts., N. W., Washington, D. C.
- HERBOLD, CARL JAMES. Engr., Boldt Constr. Co. (Res., 317 East High St.), Alliance, Ohio.
- HEWS, WELLINGTON PRESCOTT. Capt., Engr. R. C., 62d Engrs., Am. Exp. Forces, France.
- HINRICHS, ADOLF. 1st Lieut., Co. 5, E. O. T. S., Camp Humphreys, Va.; Address, 179 Lewis Ave., Brooklyn, N. Y.
- HIRSCH, HERMAN DAVID. Asst. Engr., Am. Bridge Co., 30 Church St., New York City.
- HOLDREGE, HENRY ATKINSON. P. O. Box 536, Wilmington, N. C.
- HOWARD, ROBERT CHESTER. Capt., Engrs. U. S. A., Co. 1-A, E. O. T. S., Camp Humphreys, Va.; Address, Greeneville, Tenn.
- HULBURD, LUCIUS SANFORD. Senior Asst. Engr., New York State Barge Canal, Brasher Falls, N. Y.
- HUMAN, THEODORE, JR. Care, E. A. Fonda, 111 College Pl., Norfolk, Va.
- JEWETT, THOMAS EDWARD. Capt., Q. M. C., U. S. A., Constr. Div., U. S. Service Club of America, Dupont Circle, Washington, D. C.
- JONES, PAUL SIDNEY. Co. 2, E. O. T. C., Camp Humphreys, Va.

ASSOCIATE MEMBERS (*Continued*)

- KANE, IRVING PATTERSON. Capt., Engr. R. C., 45th Engrs., Am. Exp. Forces, France (Res., Long Green, Md.).
- KELLY, HUGH AMBROSE. Lieut., Engr. R. C., Camp Humphreys, Va.; Civ. Engr. and Archt., 25 Cottage St., Jersey City, N. J.
- KEYS, EDWARD ALLEN. Capt., Engr. R. C., Co. C, 511th Engrs. (Service Bn.), U. S. A. P. O. 708, Am. Exp. Forces, France.
- KING, EVERETT EDGAR. Prof. of Ry. Civ. Eng., Univ. of Illinois, Urbana, Ill.
- KINGSLEY, GEORGE. Capt., Engrs., U. S. A., Cosmos Club, Washington, D. C.
- KIRTLAND, ELMOUR FITCH. 458 Wayne Sq., Beaver, Pa.
- KITTS, JOSEPH ARTHUR. Capt., Engr. R. C., U. S. A. P. O. 701, Am. Exp. Forces, France.
- KLEINSCHMIDT, HARRY SCHWING. Cons. Engr., 1308 Walker Bank Bldg., Salt Lake City, Utah.
- KNOUSE, HOMER VIRGIL. Constr. Engr., Metropolitan Water Dist. of Omaha, 109 City Hall, Omaha, Nebr.
- LASHMET, LUTHER CLYNE. Chf. Draftsman, Waddell & Son, 35 Nassau St., New York City.
- LEE, CHARLES HAMILTON. 1st Lieut., Engr. R. C., Care, Chf. Engr. Officer, A. P. O. 717, Water Supply Section, Am. Exp. Forces, France.
- LUSK, CHARLES WINSLOW. Civ. and San. Engr., Pittsburgh Filter Mfg. Co., Oil City, Pa.
- MCDONOUGH, MICHAEL JOSEPH. Col., 114th Engrs., U. S. A., Fort Bayard, N. Mex.
- MCPHERSON, ALBERT MORTIMER. Duchesne, Utah.
- MCRAE, HENRY CLINTON. 1st Lieut., Engr. R. C., 45th Engrs., Am. Exp. Forces, France.
- MARTIN, JAMES WALTER. Capt., Engr. R. C., 5th Engr. Training Reg., Camp A. A. Humphreys, Accotink, Va.
- MASSENBURG, WALTER GRAY. Dist. Engr., 406 Union Passenger Depot, Galveston, Tex.
- MELICK, NEAL ALBERT. Efficiency Insp., Submarine Boat Corporation, 235 Washington Ave., Newark, N. J.
- MESSER, HOPE RICHARD. Maj., Q. M. C., N. A., Maintenance and Repair Branch, Constr. Div., 7th and B Sts., S. W., C Bldg., Washington, D. C.; Address, 1110 Capitol St., Richmond, Va.
- MILLER, PAUL BERTOLET. 906 Van Antwerp Bldg., Mobile, Ala.
- MONK, PERCY SHELLEY. 1st Lieut., Engr. R. C., Co. F, 2d Bn., 604th Engrs., Am. Exp. Forces, France.
- MORRISON, GEORGE ELDRIDGE. 4629 Reiger Ave., Dallas, Tex.
- MOSES, CARROLL. Care, Bureau of Aircraft Production, 1550 Woodward Ave., Detroit, Mich.
- MUIR, JAMES CECIL. Care, Ho Hong Portland Cement Co., Singapore, Straits Settlements.
- NAGLER, FLOYD AUGUST. Private, Science and Research Dept., Meteorological Section, A. S., Sig. C., 2025 H St., N. W., Washington, D. C.

ASSOCIATE MEMBERS (*Continued*)

- NELSON, WILLIAM. 41 Magazine St., Cambridge, Mass.
- NORELIUS, LEWIS MAGNUS. 56 Davenport St., Detroit, Mich.
- NOWLIN, ROBERT ALDRIDGE. 2d Co., E. O. T. S., Camp A. A. Humphreys, Va.
- PETERSON, OTTO WALLACE. Care, The Oriental Consolidated Min. Co., Unsan, Chosen, Japan.
- POND, FREDERICK HENRY. 1st Lieut., Co. F, 34th Engrs., Am. Exp. Forces, France.
- PORTER, RALPH WALDO. Co. 3, E. O. T. S., Camp Humphreys, Va.
- PRATT, EDMUND ADDISON. 178 Walden Ave., Buffalo, N. Y.
- PRESTON, HARRY LONGYEAR. Capt., Engr. R. C., 22d Engrs., Camp Humphreys, Va.; Address, Jordan, N. Y.
- PRICE, WILLIAM EDMUND. Capt., Q. M. C., Care, Const. Q. M., Camp Hancock, Augusta, Ga.; Contr. (Campbell & Price), 611 Majestic Bldg., Oklahoma, Okla.
- REANEY, CHARLES FRANKLIN. Asst. Engr., Waterloo, Cedar Falls & No. Ry., 1318 West Sixth St., Waterloo, Iowa.
- REDING, JAMES HANDYSIDE. Capt., U. S. N. G., Co. A, 112th Engrs., A. P. O. 763, Am. Exp. Forces, France.
- REES, BIRD LE GRAND. Capt., Engrs. U. S. A., Camp Humphreys, Va.; Address, 669 West Onondaga St., Syracuse, N. Y.
- RICHMOND, JULIAN PIERRE WILLIAM. Civ. Engr. (rank of Lieut.), U. S. N. R. F., 32 rue Fontaine St. Georges, Paris, France (Res., Dunwoodie Heights, Yonkers, N. Y.).
- ROCKENBACH, SAMUEL DICKERSON. Brig. Gen., N. A.; Gen. Headquarters, Am. Exp. Forces, France.
- ROWE, WILFRED LINCOLN. 1312 Prairie Ave., R. F. D. No. 29, Beloit, Wis.
- SALLE, GEORGE VIAL. Supt., The Foundation Co., 148 West 94th St., New York City.
- SANDSTON, LEONARD MARK. Cons. Engr., G. P. O. Box 2456, Sydney, N. S. W., Australia.
- SCOTT, LEWIS PELOT. 1st Lieut., Engrs., U. S. A., Co. 3, E. O. T. S., Camp A. A. Humphreys, Va.; Address, 111 East Chestnut St., Carlisle, Ky.
- SELTZER, HYMEN AARON. 6420 Maryland Ave., Chicago, Ill.
- SITES, FREDERICK ROBERT. Treas., Federal Shipbuilding Co., Kearny (Res., Glen Ridge), N. J.
- SKINNER, BENJAMIN BAKER. Evergreen Hall, Woodbury, N. J.
- SNOGRASS, WILLIAM TYLER. Sergeant, Co. C, 28th Engrs., Am. Exp. Forces, France.; Address, Care, J. L. Crider, 140 Wallace St., Mount Vernon, N. Y.
- SNYDER, HUNTER IMBODEN. 76 West Monroe St., Room 512, Chicago, Ill.
- SOVEREIGN, HARRY EVANS. Dade City, Fla.
- SPENCER, WALTER TUTTLE. Supt., Boston Div., N. Y., N. H. & H. R. R., 1384 Commonwealth Ave., Suite 22, Allston, Mass.
- SPERRY, LOUIS NEWTON. 1st Lieut., Engr. R. C., 6th U. S. Engrs., Am. Exp. Forces, France.

ASSOCIATE MEMBERS (*Continued*)

- STEWART, BENJAMIN FRANKLIN, JR. 2655 Wakefield Ave., East Oakland, Cal.
- STODDARD, RAYMOND FRENCH. Superv. Engr., U. S. Shipping Board, Emergency Fleet Corporation, The Gulf, Milford, Conn.
- STRECKER, ROBERT AUGUST. Maj., 2d Bn., 309th Engrs., 84th Div., Am. Exp. Forces, France.
- STUART, EDWARD. Capt., San. Corps, U. S. A.; Res., 106 Stratheona Hall, Charles River Rd., Cambridge, Mass.
- SUDLER, EMORY. 1882 Columbia Rd., Washington, D. C.
- SWETT, EVERETT HAROLD. Capt., Engr. R. C., Camp A. A. Humphreys, Va.
- SWICKARD, JAMES BLAINE. Insp., Highway Constr., Stanislaus County, 285 South 3d St., San Jose, Cal.
- TATUM, ROBERT LEE. Box 22, La Grange, Ill.
- THOMAS, WILLIAM MICHAEL. Capt., Co. 2-B, E. O. T. C., Camp Humphreys, Va.
- THOMSEN, SAMUEL LOCKE. Capt., Engr. R. C., Co. A, 57th Engrs., Am. Exp. Forces, France (Res., 33 Talbot Rd., Windsor Hills, Baltimore, Md.).
- THORNTON, LOUIS EARLE. Civ. Engr., U. S. N. R. F. (rank of Lieut. (Senior Grade)), 4 Place Iena, Paris, France; Address, Care, H. H. Thornton, Pensacola, Fla.
- TODD, OLIVER JULIAN. Capt., Engr. R. C., 20th Engrs., P. O. No. 708, Am. Exp. Forces, France.
- TOYNE, JOHN WILSON. Capt., Q. M. C., U. S. A., Camp Custer, Battle Creek, Mich.
- TYLER, RICHARD GAINES. Capt., Q. M. C., N. A., Utilities Detachment, Camp Lee, Va.
- WALLER, ALEXANDER CHARLES. 1st Lieut., Engrs., U. S. A., 22d Engrs., Am. Exp. Forces, France (Res., 310 Second St., Neenah, Wis.).
- WALTER, FRANK EDGAR. 1st Lieut., Co. B, 55th Engrs., Am. Exp. Forces, France; Address, Care, F. H. Dietz, R. F. D. No. 25, East Akron, Ohio.
- WANZER, JAMES OLIN. 1st Lieut., 47th Engrs., Am. Exp. Forces, France (Res., 933 Georgia St., Vallejo, Cal.).
- WEBB, ISHAM GANO. Capt., Engr. R. C., 1572 Haight St., San Francisco, Cal.
- WEBB, WILLIAM TIBBITTS. Care, Const. Q. M., Picric Acid Plant, Brunswick, Ga.
- WELSH, RUSSELL DUTTON. Private, Co. F, 115th Engrs., Am. Exp. Forces, France; Address, 721 Reservoir St., Baltimore, Md.
- WEST, WADE CLARENCE. Capt., Engr. R. C., E. O. T. C., Camp Lee, Petersburg, Va.
- WHEELER, ROBERT CLARK. Capt., Q. M. C., U. S. A.; Asst. Officer in Chg. of Utilities, Newport News, Va.

ASSOCIATE MEMBERS (*Continued*)

- WINN, WALTER EDWARD. Lt.-Col., Engrs., U. S. A., 114th Engrs., 39th Div., Am. Exp. Forces, France.
- WOOD, ROBERT LEE. El Monte, Cal.
- WRIGHT, FRANCIS HERBERT. With Ford, Bacon & Davis, 115 Broadway, 16th Floor, New York City.
- WULZEN, RICHARD JOHN. Civ. and Constr. Engr., B. L. Thane Exploration Dept., 814 Alaska Bldg., Seattle, Wash.

ASSOCIATES

- BELZNER, THEODORE. Insp. of Steel Repairs to Riverside Drive Viaduct, Dept. of Plant and Structures, Madison Ave. and Harlem River (Res., 574 West 176th St.), New York City.
- GUNTHER, CHARLES OTTO. Prof. of Math., Stevens Inst. of Technology; Master Computer, Springfield Armory, Springfield, Mass.
- HEADLEY, WILLIAM THOMAS. Engr. and Pres., Headley Good Roads Co., 22 South 15th St., Philadelphia, Pa.
- OLDS, WILLIAM CLARENCE. Industrial Agt., So. Ry. System, Development Service, R. F. D. No. 4, Berkley, Va.

JUNIORS

- ANDREWS, HARRY SAMUEL. 56 North 8th Ave., Mount Vernon, N. Y.
- ANGWIN, HENRY RAYMOND. Bridge Engr., U. S. Office of Public Roads, Copley Courts, 17th and Church Sts., Washington, D. C.
- ANSCHUETZ, OTTO WILLIAM JULIUS. With Brenneke & Fay (Res., 3614 Arsenal St.), St. Louis, Mo.
- AUSTIN, HERBERT ASHFORD ROBERTSON. 1st Lieut., Engrs., U. S. A., Co. 1-A, E. O. T. C., Camp Humphreys, Va.
- BREYMANN, JOHN BERNARD, JR. 2d Lieut., C. A. R. C., Fort Whitman, via La Conner, Wash.
- CLECKNER, FREDERICK MARTIN. Private, Meteorological Section, Sig. C., Texas Agricultural and Mech. Coll., College Station, Tex. (Res., 1530 Green St., Harrisburg, Pa.).
- COLLINS, MERTON CLYDE. 1st Lieut., Engr. R. C., Camp Lee, Petersburg, Va.
- DOUGHERTY, EDWARD JAMES. 18 Llandillo Rd., Llanerch, Pa.
- GRISWOLD, HECTOR CLINTON. Asst. Civ. Engr., U. S. N. (rank of Lieut. (Junior Grade)), 222 Riverside Drive, New York City.
- HARDING, EDWARD CRITTENDEN, JR. With Air Nitrates Corporation, 46 Tremont Ave., Fort Thomas, Ky.
- HOGG, WILLIAM THOMAS. 1545 Sixth St., New Orleans, La.
- KIRSCHNER, CHARLES. Student (Private), E. O. T. S., Camp Humphreys, Va.
- KORA, DAHYABHAI BALABHAI. Engr. for Irrig. and Communication, Nawanagar State, Jamnagar (Kathiawar), India.
- LEISER, FERDINAND, JR. 30th Training Bn., Field Artillery Central Officers Training School, Camp Zachary Taylor, Ky. (Res., 1878 Harman St., Brooklyn, N. Y.).

JUNIORS (Continued)

- MORGAN, JOSEPH HOLLOWAY. 923 Shepherd St., N. W., Washington, D. C.
 OKUN, ABRAHAM HARRY. With Kny-Scheerer Corporation, 410 West 27th St., New York City.
 PRIEST, HENRY MALCOLM. 221 Edgewood Ave., Dayton, Ohio.
 TRUESDELL, STEPHEN RIGGS. 28 East Willis Ave., Detroit, Mich.
 UNGER, WILLIAM LOUIS. Bridge Draftsman, Office of Engr. of Structures, N. Y. C. R. R., Room 622, Adams Express Bldg., New York City (Res., 144 Kaplan Ave., Jamaica, N. Y.).
 WAITE, CLEMENT F. 1st Lieut., Engr. R. C.; Care, E. E. Waite, 808 West 15th St., Vancouver, Wash.
 WHITNEY, JOHN THAD. 2d Lieut., F. A. R. C., 2d Corps Artillery Park, Am. Exp. Forces, France.

DEATHS

- BOYER, WILLIAM BLAIR. Elected Junior, October 1st, 1913; Associate Member, September 12th, 1916; died July 20th, 1918.
 MURRAY, JOHN BONAVENTURE. Elected Associate Member, September 6th, 1910; died August 10th, 1918.
 WATKINS, FREDERICK WILLIAM. Elected Member, October 3d, 1883; died August 20th, 1918.

Total Membership of the Society, September 5th, 1918,
8 828.

MONTHLY LIST OF RECENT ENGINEERING ARTICLES OF INTEREST

(July 20th to Aug. 31st, 1918)

NOTE.—This list is published for the purpose of placing before the members of this Society, the titles of current engineering articles, which can be referred to in any available engineering library, or can be procured by addressing the publication directly, the address and price being given wherever possible.

LIST OF PUBLICATIONS

In the subjoined list of articles, references are given by the number prefixed to each journal in this list:

- (2) *Journal*, Engrs. Club of Phila., Philadelphia, Pa.
- (3) *Journal*, Franklin Inst., Philadelphia, Pa., 50c.
- (4) *Journal*, Western Soc. of Engrs., Chicago, Ill., 50c.
- (5) *Transactions*, Engineering Institute of Canada, Montreal, Que., Canada.
- (6) *Journal*, Am. Inst. of Archts., Washington, D. C., 50c.
- (8) *Stevens Indicator*, Hoboken, N. J., 50c.
- (9) *Industrial Management*, New York City, 25c.
- (11) *Engineering* (London), W. H. Wiley, 432 Fourth Ave., New York City, 25c.
- (12) *The Engineer* (London), International News Co., New York City, 35c.
- (13) *Engineering News-Record*, New York City, 15c.
- (15) *Railway Age*, New York City, 15c.
- (16) *Engineering and Mining Journal*, New York City, 15c.
- (17) *Electric Railway Journal*, New York City, 10c.
- (18) *Railway Review*, Chicago, Ill., 15c.
- (19) *Scientific American Supplement*, New York City, 10c.
- (20) *Iron Age*, New York City, 20c.
- (21) *Railway Engineer*, London, England, 1s. 2d.
- (22) *Iron and Coal Trades Review*, London, England, 6d.
- (24) *American Gas Engineering Journal*, New York City, 10c.
- (25) *Railway Mechanical Engineer*, New York City, 20c.
- (26) *Electrical Review*, London, England, 4d.
- (27) *Electrical World*, New York City, 10c.
- (28) *Journal*, New England Water-Works Assoc., Boston, Mass., \$1.
- (29) *Journal*, Royal Society of Arts, London, England, 6d.
- (32) *Mémoires et Compte Rendu des Travaux*, Soc. Ing. Civ. de France, Paris, France.
- (33) *Le Génie Civil*, Paris, France, 1 fr.
- (36) *Cornell Civil Engineer*, Ithaca, N. Y.
- (42) *Proceedings*, Am. Inst. Elec. Engrs., New York City, \$1.
- (43) *Annales des Ponts et Chaussées*, Paris, France.
- (45) *Coal Age*, New York City, 10c.
- (46) *Scientific American*, New York City, 15c.
- (47) *Mechanical Engineer*, Manchester, England, 3d.
- (54) *Transactions*, Am. Soc. C. E., New York City, \$12.
- (55) *Transactions*, Am. Soc. M. E., New York City, \$10.
- (56) *Transactions*, Am. Inst. Min. Engrs., New York City, \$6.
- (57) *Colliery Guardian*, London, England, 5d.
- (58) *Proceedings*, Engrs.' Soc. W. Pa., 2511 Oliver Bldg., Pittsburgh, Pa., 50c.
- (59) *Proceedings*, American Water-Works Assoc., Troy, N. Y.
- (60) *Municipal and County Engineering*, Indianapolis, Ind., 25c.
- (61) *Proceedings*, Western Railway Club, 225 Dearborn St., Chicago, Ill., 25c.
- (62) *American Drop Forger*, Thaw Bldg., Pittsburgh, Pa., 10c.
- (63) *Minutes of Proceedings*, Inst. C. E., London, England.
- (64) *Power*, New York City, 5c.
- (65) *Official Proceedings*, New York Railroad Club, Brooklyn, N. Y., 15c.
- (66) *Gas Journal*, London, England, 6d.
- (67) *Cement and Engineering News*, Chicago, Ill., 25c.
- (71) *Journal*, Iron and Steel Inst., London, England.
- (71a) *Carnegie Scholarship Memoirs*, Iron and Steel Inst., London, England.
- (72) *American Machinist*, New York City, 15c.
- (73) *Electrician*, London, England, 18c.
- (74) *Transactions*, Inst. of Min. and Metal, London, England.
- (75) *Proceedings*, Inst. of Mech. Engrs., London, England.
- (77) *Journal*, Inst. of Elec. Engrs., London, England, 5s.
- (83) *Gas Age*, New York City, 15c.
- (85) *Proceedings*, Am. Ry. Eng. Assoc., Chicago, Ill.
- (86) *Engineering and Contracting*, Chicago, Ill., 10c.
- (87) *Railway Maintenance Engineer*, Chicago, Ill., 10c.

- (89) *Proceedings, Am. Soc. for Testing Materials*, Philadelphia, Pa., \$5.
 (90) *Transactions, Inst. of Naval Archts.*, London, England.
 (91) *Transactions, Soc. Naval Archts. and Marine Engrs.*, New York City.
 (92) *Bulletin, Soc. d'Encouragement pour l'Industrie Nationale*, Paris, France.
 (93) *Revue de Métallurgie*, Paris, France, 4 fr. 50.
 (96) *Canadian Engineer*, Toronto, Ont., Canada, 10c.
 (98) *Journal, Engrs. Soc. Pa.*, Harrisburg, Pa., 30c.
 (99) *Proceedings, Am. Soc. of Municipal Improvements*, New York City, \$2.
 (100) *Professional Memoirs, Corps of Engrs.*, U. S. A., Washington, D. C., 50c.
 (101) *Metal Worker*, New York City, 10c.
 (103) *Mining and Scientific Press*, San Francisco, Cal., 10c.
 (104) *The Surveyor and Municipal and County Engineer*, London, England, 6d.
 (105) *Chemical and Metallurgical Engineering*, New York City, 25c.
 (106) *Transactions, Inst. of Min. Engrs.*, London, England, 6s.
 (107) *Schweizerische Bauzeitung*, Zürich, Switzerland.
 (109) *Journal*, Boston Soc. C. E., Boston, Mass., 50c.
 (110) *Journal, Am. Concrete Inst.*, Philadelphia, Pa., 50c.
 (111) *Journal of Electricity*, San Francisco, Cal., 25c.
 (113) *Proceedings, Am. Wood Preservers' Assoc.*, Baltimore, Md.
 (114) *Journal, Institution of Municipal and County Engineers*, London, England, 1s. 6d.
 (115) *Journal, Engrs.' Club of St. Louis*, St. Louis, Mo., 35c.
 (116) *Blast Furnace and Steel Plant*, Pittsburg, Pa., 15c.
 (117) *Engineering and Cement World*, Chicago, Ill.
 (118) *Times Engineering Supplement*, London, England, 2d.
 (119) *Automotive Industries*, New York City, 10c.

LIST OF ARTICLES

Bridges.

- Recommended Practice for Concrete Bridge Construction. (Specifications prepared by Portland Cement Assoc.) (96) July 18.
 Tests on Tie Bars from the Menal Suspension Bridge.* (12) July 19.
 Design and Construction Features of Concrete Viaduct Approach to Central Ave. Bridge, Kansas City, Kan.* (86) July 24.
 Placing 52-Ton Pre-Cast Beams on North Toronto Bridges of C. P. Ry.* (86) July 24.
 Bridge Across the River Vistula at Warsaw.* (12) July 26.
 Electric Railway Construction on the Detroit-Superior Bridge.* (17) July 27.
 Rebuilding the C. B. & Q. R. R. Bridge Over the Platte River, Near Grand Island, Neb.* (15) July 27.
 The Langures Reinforced Concrete Viaduct.* (86) July 31.
 Equivalent Uniform Loads for Indeterminate Structures.* D. B. Steinman. (13) Aug. 1.
 Franklin-Orleans Bridge, Chicago.* (117) Aug. 15.
 Reinforced Concrete Trestles at North Toronto.* (15) Aug. 16.
 The Advantages of Flat-Slab Construction for Bridges.* A. B. Cohen. (Abstract of paper read before Am. Concrete Inst.) (86) Aug. 28.
 Nelson River Crossed by Hudson Bay Railway on Large Continuous-Truss Bridge.* (13) Aug. 29.
 Bridge at Lyons Named in Honor of President Wilson.* (13) Aug. 29.
 Note sur l'Arche d'Essai de Melun en Béton à Fermettes Enrobées. Frontard. (43) Jan.
 Le Pont Wilson, sur le Rhone, à Lyon.* A. Dumas. (33) July 13.
 Wettbewerb für eine Brücke über die Reuss bei Glisikon.* (107) Serial beginning July 6.

Electrical.

- The Application of Electrical Power to Oilfield Requirements. J. Wilfred Burford. (Abstract of paper read before Inst. of Petroleum Technologists.) (22) May 31.
 Telephone Exchange Transfers and Their Organization.* F. G. C. Baldwin. (77) June.
 Single-Impulse Radiography (Instantaneous): Its Limitations and Possibilities. Robert Knox. (77) June.
 Modern Development of Large Hydro-Electric Power Schemes.* C. Fred Holmboe. (73) June 21.
 A Steel Works Electrification.* (26) June 28.
 Some Considerations Relating to Large Power Station Switchgear.* H. W. Clothier. (73) June 28.
 The Problem of Condensing in Large Power Stations. J. H. Rider. (73) June 28.
 The Transmission of Power. B. Welbourn. (73) June 28.
 The Maintenance of Economy in the Boiler House. D. Wilson. (73) June 28.

* Illustrated.

Electrical—(Continued).

- The Electrical System of the Forge Shop.* Edward McLlreid. (Abstract of paper read before Am. Drop Forge Assoc.) (62) July.
 The Test Sheath Cable and Its Potentialities.* (73) July 5.
 An Experimental Study of the Fahy Permeameter.* Charles W. Burrows and Raymond L. Sanford. (73) July 5.
 Electric Plant at a Canadian Smelting Works.* (12) July 12.
 Remote Control for Squirrel-Cage Motors.* L. E. Wood. (26) July 12.
 Why the Two Elements of the Polyphase Read Differently. (111) July 15.
 Higher Harmonics in Polyphase Electric Systems. V. Karapetoff. (73) July 19.
 A Study of Electric Range Efficiency. R. G. Kloeffler. (73) Serial beginning July 19.
 Calculation of Performance of Induction Motors Working in Conjunction with Flywheels and Slip Regulators. Herbert Vickers. (73) July 19.
 A New Method of Measuring Alternating Currents and Electric Oscillations.* I. Williams. (73) July 19.
 Theory of the Static Frequency-Doubler. M. Osnos. (Abstract of article in *Elektrotechnische Zeitschrift*.) (73) July 19.
 Electrolysis Mitigation. (Paper issued by U. S. Bureau of Standards.) (19) Serial beginning July 20.
 Induction Motor Troubles. Gordon Fox. (64) Serial beginning July 23.
 The Electric Method of Testing Radiators.* J. E. Emswiler. (Paper read before Am. Soc. of Heating and Ventilating Engrs.) (111) July 26.
 Electrical Properties of Vulcanised Fibre. William Eves. (73) July 26.
 The Stroke of an Alternating-Current Electro-Magnet. A. Thomälen. (73) July 26.
 Resistance and Reactance of Iron Transmission Lines. A. Press. (73) July 26.
 Costs of the Operation of Electric Vehicles in Municipal Service. S. L. Pearce. (86) July 31.
 A Direct-Current Generator for Constant Potential at Variable Speed.* S. R. Bergman. (42) Aug.
 Skin Effect in Tubular and Flat Conductors. H. B. Dwight. (42) Aug.
 Electric Motor Faults. J. Humphrey. (22) Aug. 2.
 Practical Points Concerning Interpoles.* (26) Aug. 2.
 "Gasteam" Plant at Ford City, Ontario.* (64) Aug. 6.
 Outdoor Water-Cooled Transformers.* R. Von Fabrice. (101) Aug. 6.
 Non-Distributor and Multipolar Magnetos.* Fred I. Hoffman. (119) Aug. 8.
 Radiotelegraphy.* Guy E. Mitchell. (19) Aug. 10.
 Electric Weighing of a Moving Mass.* J. M. Bird. (46) Aug. 10.
 Wiring and Equipment for Radio Instruction.* W. Haynes. (111) Aug. 15.
 Applying Common-Sense in Line Construction.* Charles R. Harte. (17) Aug. 17.
 Reasonable Charge for Off-Peak Electric Current. (64) Aug. 20.
 Les Distributions d'Electricité en Allemagne; Situation Actuelle et Tendances vers un Monopole d'Etat.* (33) Serial beginning April 27.
 Le Nouvel Effet Thermo-Electrique et le Principe d'Etranglement. Carl Benedicks. (93) May.
 Variations de la Législation Américaine Concernant l'Eclairage Industriel.* (33) July 20.
 L'Etat Actuel de la Radiotélégraphie à Grande Distance et le Réseau Transocéanique français.* Léon Bouthillon. (33) Serial beginning Aug. 3.

Marine.

- Progress in the Application of Concrete to Barge and Shipbuilding. J. E. Freeman. (4) Mar.
 Shipbuilding in the United States.* (12) June 28.
 2500 H. P. Rateau Marine Geared Turbines.* (12) July 12.
 Design Features of Concrete Ship Developed by Government Department of Concrete Ship Construction. R. J. Wigg. (Abstract of U. S. Senate Document.) (86) July 24.
 Seattle Shipbuilders Overcome Pioneer Difficulties and Set New Speed Records.* Claude A. Osier. (13) July 25.
 Problems of Designing the Reinforced-Concrete Ship.* Rudolph J. Wig and S. C. Hollister. (Abstract of paper read before Am. Concrete Inst.) (13) July 25.
 Design and Construction of Water and Sewerage Works at the Hog Island Shipyard.* W. H. Blood, Jr. (60) Aug.
 Ship Heating by Guesswork Routed by Science.* George T. Mott. (101) Aug. 23.
 Les Remorqueurs en Béton Armé.* G. Espitallier. (33) July 27.

Mechanical.

- Simplification of Riveted Joint Design. H. A. S. Howarth. (58) May.
 Producer Gas, Its Manufacture and Use. C. S. Palmer. (58) May.
 Failures of Steel Boiler Plates Under Pressure.* Sidney A. Houghton. (Abstract of paper read before West of Scotland Iron and Steel Inst.) (22) May 31.
 Rubber Substitutes.* Andrew H. King. (105) June 15.

* Illustrated.

Mechanical—(Continued).

- Gas in an American Officers' Hostel.* (66) June 25.
 The Lubrication of Mitchell Blocks.* (11) June 28.
 Some Outstanding Problems in Aeronautics. Durand. (Paper read before Aeronautical Soc. of Great Britain.) (11) Serial beginning June 28; (118) July; (12) July 5.
 Steam Pipe Explosions.* Edward Ingham. (57) June 28.
 The Stokes Gun and Shell, and Their Development.* Wilfred Stokes. (Paper read before Junior Inst. of Engrs.) (11) June 28; (12) July 5.
 The Wrenthorpe Brick Works.* (22) June 28.
 Possible Economies by the Use of High-Pressure Steam.* Frederick Samuelson. (73) June 28.
 Problems of Coal Handling.* W. B. Woodhouse. (73) June 28.
 Fuel Analysis of a Drop Forge Plant.* B. K. Read. (Abstract of paper read before Am. Drop Forge Assoc.) (62) July.
 Gas for Raising Steam. (118) July.
 The Cunard National Shell Factory.* (11) Serial beginning July 5.
 A New Theory of the Steam Turbine. Harold Medway Martin. (11) Serial beginning July 5.
 Reform in the File Industry. George Taylor. (Paper read before Sheffield File Managers' Assoc.) (12) July 5.
 Testing Air Compressors.* N. S. Tennant. (11) July 5.
 The "Direct" Process of Sulphate Making in Gas-Works. W. S. Curphey. (66) July 9.
 Constituents of Coal Tar. E. Spielmann. (Abstract of pamphlet.) (66) Serial beginning July 9.
 2500 H. P. Rateau Marine Geared Turbines.* (12) July 12.
 Measuring Air and Gases with the Pitot Tube. A. H. Anderson. (57) July 19.
 CO₂ Recorders in the Boiler-House.* John B. C. Kershaw. (12) July 19.
 Bellefontaine's New Municipal Plant Now in Operation. (24) July 20.
 The Emergency and Clean Coal.* G. H. Elmore. (45) July 20.
 Use of Pulverized Coal at the Bunker-Hill and Sullivan Smelting and Refining Plant.* C. T. Rice. (16) July 20.
 Boiler Settings—Multiple Retort Under Feed Stokers.* Charles H. Bromley. (64) July 23.
 Some Features of Low-Compression Oil Engines.* L. H. Morrison. (64) Serial beginning July 23.
 Heat and Heat Transmission. John R. Allen. (Abstract of paper read before Am. Soc. of Heating and Ventilating Engrs.) (86) July 24.
 The Storage of Bituminous Coal with Reference to Its Liability to Spontaneous Combustion in Storage. John H. Anderson. (Abstract of paper read before Inst. of Marine Engrs.) (26) July 26; (64) Aug. 27.
 The Possibilities of Powdered Coal, as Shown by Its Combustion Characteristics. W. G. Wilcox. (Paper read before Am. Chemical Soc.) (19) July 27; (105) July 1.
 The Storage of Soft Coal. W. L. Abbott. (Abstract of paper read before National Firemen's Convention.) (64) July 30.
 Progress Report of Committee on Limits and Tolerances in Screw Thread Fits.* (55) Aug.
 Transportation by Power Trucks.* (9) Aug.
 Question of Correct Hammer Foundations. Terrel Croft. (62) Aug.
 Refrigeration and Ice Making.* Charles L. Hubbard. (9) Aug.
 Problems of Steam Cylinder Lubrication. W. F. Osborne. (116) Aug.
 Some Characteristics of American Coals in By-Product Coking Practice. F. W. Sperr, Jr. (3) Aug.
 How to Find and Use Barometric Costs. C. W. Starker. (9) Aug.
 Bolt Manufacture in Railway Shops.* M. H. Williams. (25) Aug.
 Essentials of Bulldozer Operations—The U-Blocks.* J. V. Hunter. (72) Aug. 1.
 The De Havilland IV Biplane.* (119) Aug. 1.
 The Deresination of Rubber. Andrew H. King. (105) Aug. 1.
 The Opportunity of Electrical Refrigeration.* H. N. Sessions. (111) Aug. 1.
 Notes on Newcomen Atmospheric Engines (1787 and 1823).* Gerald T. Newbould. (Abstract of paper read before Midland Inst. of Min. Civ. and Mech. Engrs.) (22) Aug. 2.
 Retorting Under Pressure Promises a Means of Utilizing Lignite for Gas Making. F. Schoch. (Abstract of paper read before Southwestern Elec. and Gas Assoc.) (24) Aug. 3.
 Bombing Planes and Their Targets.* (46) Aug. 3.
 Water Gas Manufactured by Ordinary Method for Domestic Use Exceedingly Poor Gas for Balloon Use. F. L. Weissner. (Abstract of paper read before Southwestern Elec. and Gas Assoc.) (24) Aug. 3.
 Dripping One-Pipe Steam-Heating Systems.* Albert L. Baum. (64) Aug. 6.
 The British 6-In. Hówtizer.* I. William Chubb. (72) Serial beginning Aug. 8.
 Using a Punch Press in Lieu of Bending Rolls.* J. V. Hunter. (72) Aug. 8.

* Illustrated.

Mechanical—(Continued).

- Furnace Estimating. A. E. Munkel. (Paper read before Ohio Sheet Metal Contractors' Assoc.) (101) Aug. 9.
- Electric Weighing of a Moving Mass.* J. M. Bird. (46) Aug. 10.
- A Navigational Safeguard for Trans-Atlantic Flight.* Robert G. Skerrett. (46) Aug. 10.
- Soot Blowers for Vertical and Hollow Stay-Bolt Boilers.* (64) Aug. 13.
- Lubrication of Air-Compressor Cylinders. W. H. Callan. (64) Aug. 13; (45) Aug. 1.
- The Manufacture of Carbon Electrodes for Electro-Metallurgical Purposes.* (105) Aug. 15.
- The Roland Single Seater Fighter.* (119) Aug. 15.
- Buda Model "H T U" Engine.* (119) Aug. 15.
- Indicating Fixtures for the Gaging of Automobile Parts.* Albert A. Dowd. (72) Aug. 15.
- Effective System of Coal Handling at Providence. G. K. Jenckes. (83) Aug. 15.
- Auxiliary Steam Plant for Seattle.* John H. Longfellow. (111) Aug. 15.
- Storage and Handling of Gas Coal.* H. H. Stock. (83) Aug. 15.
- Steering Creeper and Two-Wheeled Tractors.* A. C. Woodbury. (119) Aug. 15.
- The Testing of Lubricants.* Raymond Francis Yates. (72) Aug. 15.
- Emergency Auto-Ladder Truck Used in San Francisco.* S. L. Foster. (17) Aug. 17.
- Phenomenon of Breathing Important in Gas Industry Especially Because Breathing Involves Process Whose Net Results are Exactly Those of Consumption by Oxidation by Any Fuel. Enoch Karrer. (24) Aug. 17.
- Uses of Gas in Manufacture of Rubber in Its Various Forms.* Gilbert C. Shadwell. (24) Aug. 17.
- What Is the Cure for Condenser Tube Corrosion? Hartley LeH. Smith. (17) Aug. 17.
- Development of Power from the Standpoint of the Boiler Room. C. F. Hirschfeld. (64) Aug. 20.
- Elimination of Chatter Marks from Machined Work.* (72) Aug. 22.
- The S. E. 5 A Single Seater Fighter.* (119) Aug. 22.
- Modern Practice in Galvanizing Sheets.* Clement F. Poppleton. (20) Aug. 22.
- Gas-Engine Work on the Pacific Coast.* Frank A. Stanley. (72) Aug. 22.
- Ship Heating by Guesswork Routed by Science.* George T. Mott. (101) Aug. 23.
- Home-Made Briquette Plant Converts Waste Into a Useful, Salable Product.* Henry M. Balsam. (24) Aug. 24.
- Soot Removal from Fire-Tube Boilers.* (64) Aug. 27.
- Boiler Furnaces and Boiler-Furnace Design. D. S. Jacobus. (Paper read before Am. Boiler Manufacturers' Assoc.) (64) Aug. 27.
- The Forty-Five Thousand Kilowatt Compound Turbine at Providence, R. I.* J. P. Rigby. (64) Aug. 27.
- Determining of Piecework Rates from Charts.* Otto M. Burkhardt. (72) Aug. 29.
- The Manufacture of Optical Glass. S. A. Hand. (72) Aug. 29.
- Exceptional Gang Core Boxes.* J. V. Hunter. (72) Aug. 29.
- Sur le Desage du Carbon Total dans les Combustibles et son Importance dans les Etudes d'Economies de Combustibles. Emilio Damour and de la Morinlière. (93) Nov., 1917.
- Les Laboratoires des Usines André Citroën.* L. Guillet and H. Godfroid. (93) Jan.
- Le Service d'Economie de Combustible à la Cie des Forges et Acières de la Marine et d'Homécourt.* Theodore Laurent. (93) Mar.
- Machine à Percer et à Fraiser Duplex, Système Harvey.* (33) Mar. 23.
- Abaque pour le Calcul des Ressorts à Boudin, sa Théorie, son Tracé, son Emplol.* A. Auric. (33) May 25.
- Formule Nouvelle et Abaque pour l'Etude des Distributions de Vapeur.* Rudolphe Soreau. (32) June, 1917.
- Machine à Fraiser Continue, Système Becker.* Ch. Dantin. (33) June 8.
- Les Nouveaux Fours à Coke des Acières de Thornaby à Stockton-on-Tees (Angleterre).* (33) June 29.
- La Manutention Mécanique des Charbons et des Cokes* (33) July 6.
- La Taille et la Correction des Vis de Précision Tour à Fileter Bryant Symons.* (33) Aug. 3.
- Hohlkehlschärfe und Dauerbiegung.* A. Stodola and F. Schüle. (107) Mar. 30.

Metallurgical.

- Charcoal Precipitation of Aueroxanide.* A. W. Allen. (105) June 15.
- Determining Copper Minerals in Partly Oxidized Ores. Felix Cremer. (105) June 15.
- A Contribution to the Study of the Magnetic Properties of Manganese and of Some Special Manganese Steels. Robert Hadfield. (73) June 28.

* Illustrated.

Metallurgical—(Continued).

- The Electric Furnace for Heat Treatment.* T. F. Baily. (Paper read before Am. Drop Forge Assoc.) (62) July; (119) Aug. 1.
- Electric Steel for the Forging Industry.* Arthur O. Farr. (Paper read before Am. Drop Forge Assoc.) (62) July; (119) Aug. 1.
- Question of Quenching Oils for Forgings.* George W. Pressell and Lewis H. McLaughlin. (Abstract of paper read before Am. Drop Forge Assoc.) (62) July.
- Oxy-Acetylene Welding. George B. Malone. (100) July.
- Triplex Process of Making Electric Steel.* Theodore W. Robinson. (Extract from paper read before Am. Iron and Steel Inst.) (105) July 1.
- Reform in the File Industry. George Taylor. (Paper read before Sheffield File Managers' Assoc.) (12) July 5.
- Electric Plant at a Canadian Smelting Works.* (12) July 12.
- Electrical Method of Eliminating Fatigue of Metals.* (117) July 15.
- Flotation Apparatus, Their Design and Operation.* A. W. Fahrenwald. (105) July 15.
- Electrical Manufacture of Silico-Manganese.* (111) July 15.
- Development of an Electric Furnace for Annealing Treatment and Forging of Steel.* Wirt S. Scott. (Paper read before Assoc. of Iron and Steel Elec. Engrs.) (105) July 15; (73) July 26.
- Baghouses for Zinc Oxide.* John F. Cregan. (16) July 20.
- Ideal Layout for Silver-Lead Smelter.* Guy C. Riddell. (16) July 20.
- Mechanical Scotch-Hearth Smelting.* William E. Newnam. (16) July 20.
- Notes on Recent Metallurgical Progress.* E. P. Mathewson. (16) July 20.
- Cast Iron at High Temperature.* (64) July 23.
- Liquid Ferromanganese in Steel Making.* (20) July 25.
- Metallurgical Electric Furnaces.* (11) Serial beginning July 26.
- The Ruth Flotation Machine.* Arthur J. Hoskin. (103) July 27.
- Tall Chimneys in Metallurgical Plants.* (16) July 27.
- Welding Methods at Columbus Shops.* (25) Aug.
- Operation of Motor-Driven Continuous Mills. H. C. Cronk. (116) Aug.
- Possibilities of the Forging Machine.* E. R. Hagen. (62) Aug.
- Correct Heat Treatment of Die Blocks. Gustaf Peterson. (62) Aug.
- The Care and Maintenance of Piston Rods.* George C. Stebbins. (62) Aug.
- Silica Brick in Open-Hearth Furnace Roofs. (20) Aug. 1.
- The Webb Electric Steel Furnace.* (20) Aug. 1.
- The Metallography and Heat Treatment of Metals Used in Aeroplane Construction.* F. Grotts. (105) Aug. 1.
- Aluminium and Its Light Alloys. Paul D. Merica. (105) Aug. 1.
- Steels for Gears and Their Treatment. George A. Richardson. (Abstract of paper read before Am. Drop Forge Assoc.) (22) Aug. 2.
- Blast-Furnace Smelting of Stibnite.* (16) Aug. 3.
- Filter Adjustments at Packard Mill at Rochester, Nevada.* F. Dean Bradley. (16) Aug. 3.
- The Calumet and Arizon Smelter.* Courtenay De Kalb. (103) Aug. 10.
- Thermal Efficiency of Over 45 Per Cent. Secured with Quantity Production Automatic Gas-Fired Furnace for Heat Treating Artillery Shell.* W. J. Harris, Jr. (24) Aug. 24.
- Standard Method for Zinc-Lead Assay. W. George Waring. (103) Aug. 10.
- The Manufacture of Welded Pipe.* S. A. Hand. (72) Aug. 15.
- Electric Treatment of Airplane Forgings.* Dwight D. Miller. (20) Aug. 15.
- The New American Spirit Roaster.* F. J. Harlow. (16) Aug. 17.
- The Alterability of Aluminum. Jean Escard. (From *Revue Scientifique*). (19) Aug. 24.
- Construction and Operation of an Electrolytic Copper Refinery.* J. E. McAllister. (16) Aug. 24.
- Notes on Testing Hardness of Metals. J. W. Craggs. (From *Journal of the Soc. of Chemical Industry*). (19) Aug. 10.
- Electric Furnace for Heat Treating of Small Airplane Parts.* Dwight D. Miller. (72) Aug. 29.
- L'Industrie Minière et Sidérurgique de la Russie en 1913 et son Futur Développement. Alexandre Gouvy. (32) Oct., 1917.
- Dosage du Silicium dans les Ferro-Siliciums. Paul Nicolardet and Jean Koenig. (93) Nov., 1917.
- Méthode de Dosage Rapide du Manganèse et du Chrome dans les Produits Sidérurgiques. A. Travers. (93) Nov., 1917.
- Sur la Filtration de la Silice. Paul Nicolardet and Jean Koenig. (93) Nov., 1917.
- Les Minéraux de Fer du Brésil. F. De Souza Dantas. (93) Nov., 1917.
- Recherches sur l'Acier à Coupe Rapide faites au Laboratoire du Harvard. Yatsevitich. (93) Jan.
- Sur l'Hétérogénéité des Aciers.* H. Le Chatelier and E. L. Dupuy. (93) Mar.
- Sur l'Hétérogénéité des Aciers.* G. Charpy and S. Bonnerot. (93) Mar.

* Illustrated.

Metallurgical—(Continued).

- Le Grossissement du Grain de l'Acier.* Henry M. Howe. (93) Mar.
 La Macrostructure de l'Acier, examinée au Moyen du Réactif Cuivrique "Stead-le-Chateller".* A. Portevin and V. Bernard. (93) May.
 La Flottaison des Minerais.* (33) July 13.
 Le Briquetage des Minerais de Fer Pulvérulents et des Poussières de Hauts Fourneaux. (33) Serial beginning July 27.
 Versuche über die Festigkeit von autogenen Schweißungen. E. Höhn. (107) June 15.

Military.

- American Chemists' Defensive Measures Against Gas Attacks in France.* Robert K. Tomlin, Jr. (105) June 15.
 The Stokes Gun and Shell and Their Development.* Wilfred Stokes. (Paper read before Junior Inst. of Engrs.) (11) June 28; (12) July 5.
 Sandbox Instruction in Fortification, Reconnaissance and Minor Tactics.* V. L. Peterson. (100) July.
 Old and New Opinions About the Value of Permanent and Fortified Positions.* (Translation from *Schweizerische Zeitschrift für Artillerie und Genie.*) (100) July.
 The Cunard National Shell Factory.* (11) Serial beginning July 5.
 The Development of the French 75-mm. Field Gun.* (72) July 25.
 Some Types of Modern Hand Grenades.* Rudolph C. Lang. (72) July 25.
 The Three-Inch Anti-Aircraft Gun: Model 1918. (72) Aug. 1.
 Bombing Planes and Their Targets.* (46) Aug. 3.
 Internal Ballistics. A. G. Hadcock. (Abstract of paper read before Royal Inst.) (19) Aug. 3.
 "Laying the Egg on the Hun".* (119) Aug. 8.
 Organization of the German Army Aviation Service.* (119) Aug. 8.
 The British 6-In. Howitzer.* L. William Chubb. (72) Serial beginning Aug. 8.
 The Roland Single Seater Fighter.* (119) Aug. 15.
 The S. E. 5 A Single Seater Fighter.* (119) Aug. 22.
 The Problems of Aerial Bombing. (119) Aug. 22.
 Roads in Base Section of American Forces Require Widening and Resurfacing.* Robert K. Tomlin, Jr. (13) Aug. 22.
 Thermal Efficiency of Over 45 Per Cent Secured With Quantity Production Automatic Gas-Fired Furnace for Heat Treating Artillery Shell.* W. J. Harris, Jr. (24) Aug. 24.
 La Fabrication des Canons.* Ch. Dantin. (33) July 20.
 Les Revolvers et les Pistolets Automatiques.* L. Cabanes. (33) Serial beginning July 27.

Mining.

- Notes on Faults and Rolls in Coal Seams.* Idris Thomas. (Read before National Assoc. of Colliery Managers.) (22) May 31.
 Notes on Safety-Lamp Installation at Plenneller Colliery, Haltwhistle, Northumberland. George Raw. (Paper read before National Assoc. of Colliery Managers.) (22) May 31.
 The Application of Electrical Power to Oilfield Requirements. J. Wilfred Burford. (Abstract of paper read before Inst. of Petroleum Technologists.) (22) May 31.
 Colliery Cable Suggestions.* A. R. Davies. (Paper read before Assoc. of Min. Elec. Engrs.) (22) June 28.
 Notes on the Overhead Koepe Winding Plant at Plenneller Colliery, Haltwhistle, Northumberland.* George Raw. (106) July.
 Instantaneous Outburst of Coal and Gas at Bedford Collieries, Leigh.* F. N. Siddall. (106) July.
 Mine Rescue Work.* H. D. Trounce. (100) July.
 The Repair of a Circular Shaft of Small Diameter. Stewart Chambers. (106) July.
 Extracting Coal Pillars from Fiery Seams.* R. H. Husband. (Paper read before Min. and Geol. Inst. of India.) (57) July 5.
 The Safe Operation of Power Plants Switchboards.* L. Fokes. (57) Serial beginning July 5.
 Electric Winding Engines and Mine Hoists.* H. H. Broughton. (73) July 5.
 Earthing Electrical Services in Mines.* (57) July 12.
 The Cementation Process at the Hatfield Main Sinking. H. N. Berry. (Abstract of paper read before National Assoc. of Colliery Managers.) (22) July 12.
 Cable or Well Drills as Adapted to Blast Hole Work and Quarry.* (117) July 15.
 Deep Quarry Operations in Chicago.* (117) July 15.
 Fireproofing Mine Shafts with Cement. (117) July 15.
 New American Washery.* W. L. Cross, Jr. (57) July 19.
 Notes on Sand-Filling in Mines.* C. H. Greathead. (From *Journal of the Chemical, Metal. and Min. Soc. of South Africa.*) (57) July 19.

* Illustrated.

Mining—(Continued).

- The Future Aspect of Mine Surveying. John Proctor. (57) July 19.
 Steel Mine Ties.* G. A. Richardson. (45) July 20.
 Marcus Screen at Plants of the Carnegie Coal Co., Pennsylvania.* Richard G. Miller. (45) July 25.
 The Britannia Colliery, Pengam, Mon.* George Hann. (Abstract of paper read before South Wales Inst. of Engrs.) (57) July 26.
 Recently Recognized Alunite Deposits at Sulphur, Humboldt County, Nevada.* I. C. Clark. (16) July 27.
 Method of Supporting Underground Workings in the Rand Mines. (86) July 31.
 A New Method of Separating Slate from Coal.* H. M. Chance. (2) Aug.
 Testing for Gas in Mines.* H. E. Gray. (45) Aug. 1.
 Mine-Car Axles.* B. P. Lieberman. (45) Aug. 1.
 Concrete Foundations, Drift Linings and Reservoirs.* J. F. Springer. (45) Aug. 1.
 Cementation Process Applied to Mining.* A. H. Krynauw. (Abstract of paper read before Chemical, Metal., and Min. Soc. of South Africa.) (57) Aug. 2.
 Two Newcomen Atmospheric Pumping Engines.* Gerald T. Newbould. (Abstract of paper read before Midland Inst. of Min. Civ. and Mech. Engrs.) (57) Aug. 2.
 Handling Mine Water.* Henry E. Cole. (45) Aug. 8.
 New Plant of Pioneer Operation in Franklin County, Illinois.* George W. Harris. (45) Aug. 8.
 Dust Prevention in Transvaal Mines. Arthur C. Whitmore and J. H. Veasey. (Extract from paper read before South African Inst. of Engrs.) (16) Aug. 10.
 An Electrically Interlocked Car Haul and Car Feeder.* R. P. Hines. (45) Aug. 15.
 Reline and Waterproof Mine Shaft with Cement Gun.* (13) Aug. 15.
 Ilsemannte. H. F. Yancey. (105) Aug. 15.
 Methods of Operation. J. F. K. Brown. (45) Aug. 15.
 Scraper Mining of Thin Bed Anthracite.* E. P. Humphrey. (45) Aug. 15.
 Tunnel-Blasting at Chuquicamata.* E. E. Barker. (103) Aug. 17.
 Efficiency Tests of Rock-Drill Accessory Equipment.* Charles F. Willis. (16) Aug. 17.
 Orient Mine of Franklin County, Illinois.* George W. Harris. (45) Aug. 22.
 Coal Mining and Man Power. F. A. Pocock. (45) Aug. 22.
 Water Indicator and Motor Stop.* Frank Huskinson. (45) Aug. 22.
 A Gasoline-Driven Diamond-Drill Outfit. J. M. Longyear, Jr. (16) Aug. 24.
 Shaft for Water Hoisting and Ventilation.* (45) Aug. 29.
 Longwall Mining at La Salle, Illinois.* George W. Harris. (45) Aug. 29.
 L'Industrie Minière et Sidérurgique de la Russie en 1913, et son Futur Développement. Alexandre Gouvy. (32) Oct., 1917.
 Les Minerais de Fer du Brésil. F. De Souza-Dantas. (93) Nov., 1917.

Miscellaneous.

- Volume-Temperature Correction for Creosote Oil Measurements. S. R. Church and John Morris Weiss. (113) Jan.
 Ultimate Causes of Decay of Treated Poles. Roger F. Hosford. (113) Jan.
 Fire Protection as Applied to Wood-Preserving Plants. J. G. Hubbell. (113) Jan.
 Quantity of Wood Treated and Preservatives Used in the United States in 1917. R. K. Helphenstine, Jr. (113) Jan.
 The Overseas Distribution of Engineering Appliances. Leonard Andrews. (77) June.
 Chemistry in the Petroleum Industry. William H. Burton. (Abstract of paper read before Am. Chemical Soc.) (105) June 15.
 Destructive Distillation of Oil Shales. Jac C. Morrell and Gustav Egloff. (105) July 15.
 The Role of Complex Salts as Electrolytes in Plating and Refining Baths.* Reginald S. Dean and Ming Yi Chang. (105) July 15.
 The Salt Trade of the United States.* (11) Serial beginning July 26.
 A Time Study of Variable Operations. Carle M. Bigelow. (9) Aug.
 Negroes a Source of Industrial Labor.* Dwight Thompson Farnham. (9) Aug.
 Dyestuffs.* Louis Joseph Mátos. (3) Aug.
 Heat in Relation to the Health of Workmen. J. A. Watkins. (83) Aug. 1.
 What is a Fair Return on Your Investment? C. E. Grunsky. (111) Aug. 1.
 Some Peculiarities of Color and Their Bearing on Photographic Work.* A. J. Bull. (Lecture before Royal Photographic Soc.) (19) Aug. 3.
 The Training of Engineers. E. J. Silcock. (96) Aug. 8.
 The Rate of Return Under Public Regulations. C. E. Grunsky. (111) Aug. 15.
 The Nitrogen Problem in Relation to the War. Arthur A. Noyes. (19) Aug. 17.
 The Opportunities for Safety Engineering in Construction Work. David Van Schaack. (Abstract of paper read before Connecticut Soc. of Civ. Engrs.) (86) Aug. 21.

Miscellaneous—(Continued).

- Selection, Training and Supervision of Women Workers.* (119) Aug. 22.
 Combustion Train for Carbon Determination.* J. B. Stetser and R. H. Norton. (20) Aug. 22.
 Some Pitfalls in Regulating Depreciation. John Bauer. (17) Aug. 24.
 Selecting an Economic Paint. Robert Job. (86) Aug. 28.
 Tables de Division.* H. Chevalier. (32) May, 1917.
 De l'Importance de la Fonction Administrative dans le Gouvernement des Affaires. Fayol. (92) Jan.
 La Réforme de l'Enseignement Secondaire. H. Le Chatelier. (93) Jan.
 Les Ressources Cotonnières de nos Colonies et leur Mise en Valeur après la Guerre. Paul Bourdard. (92) Jan.
 Les Hommes qu'il nous Faut pour l'Organisation du Travail. Pierre Pezeu. (93) May.
 L'Industrie Allemande et la Guerre. (92) May.

Municipal.

- Porthcawl and Its Public Works.* Frederick Hatcher. (114) Nov., 1917.
 Municipal Piggeries.* Oswald A. Bridges. (114) Mar.
 Town Planning Progress in Scotland. Wm. Ross Young. (114) Apr.
 Report of the Tenth National Conference on City Planning.* Joseph C. Wagner. (2) July.
 Ideen-Wettbewerb für die Ausgestaltung der Stadtgebiete an den beiden Seeufnern in Luzern.* (107) June 15.

Railroads.

- Relation Between Average Life of Ties and Percentage of Renewals. Mable E. Thorne. (113) Jan.
 Pulverised Fuel for Locomotives. (21) July.
 A Graphical Method of Solving D. C. Track-Circuit Problems. H. M. Proud. (Paper read before Inst. of Railway Signal Engrs.) (21) July.
 Concrete Snowsheds on Railways.* Albert M. Wolf. (117) July 15.
 Powerful Electric Locomotives for the West.* (111) July 15.
 First of the U. S. Standard Locomotives Completed. (15) July 19; (25) Aug.
 New York Central Opens Cleveland Freight Terminal.* (15) July 19.
 The Trans-Australian Railway.* (12) Serial beginning July 19.
 A Mechanical Brake Control System for Railways.* (12) July 19.
 Applying Engineering Principles in the Design of Trucks.* Norman Litchfield. (17) July 20.
 Effect of Grades and Curves in Plotting Speed Time Graphs.* C. W. Squier. (17) July 20.
 Providing Strength and Attractiveness in Special Overhead Supports.* Charles R. Harte. (17) July 20.
 When Is a Rail Joint Well Bonded? G. H. McKelway. (17) July 20.
 Illinois Central Rebuilds Early Track Elevation.* C. C. Westfall. (15) July 26.
 A 100-Car Test of the Automatic Straight Air Brake.* (15) July 26; (25) Aug.
 Development of Santa Fe Reading Room System.* Charles E. Parks. (15) July 26.
 Position-Light Signals on Pennsylvania Railroad.* A. H. Rudd. (Abstract of article prepared for Railway Signal Assoc.) (15) July 26.
 A Three-Cylinder Locomotive.* (12) July 26.
 High-Speed Circuit Breaker Prevents Flashovers on Milwaukee Electrification.* (17) July 27.
 Bolt Manufacture in Railway Shops.* M. H. Williams. (25) Aug.
 N. & W. 267-Ton Mallet Locomotive.* H. W. Reynolds. (25) Aug.
 Inductive Effects of Alternating Current Railroads on Communication Circuits. H. S. Warren. (42) Aug.
 Road Tests of the A. S. A. Brake.* (25) Aug.
 Standard Specifications for Cross Ties.* (15) Aug.
 Lubricating Locomotive Wheel Flanges. (21) Aug.
 Gun Transport Car for the Navy.* (25) Aug.; (15) Aug. 2.
 New Consolidation (2-8-0) Locomotive; Victorian Railways.* (21) Aug.
 Pennsylvania Completes Freight House at Chicago.* (15) Aug. 2.
 Pacific and Mikado Type Locomotives for C. B. & Q.* (15) Aug. 2.
 Design of Cast Steel Truck Bolsters.* L. E. Endsley. (18) Aug. 3.
 Water Softening to Correct Boiler Corrosion. William Henry Hobbs. (18) Aug. 3.
 Labor Saving Devices for Track Maintenance. E. Stimson. (Abstract of paper read before New England R. R. Club.) (18) Aug. 3.
 Tendencies in Electrification. E. A. Palmer. (Paper read before Pacific Coast Railway Club.) (18) Aug. 3.
 Interesting Reconstruction Work on the Erie.* (15) Aug. 9.
 High Capacity Cars on a Narrow Gauge Railway in India.* Frederick C. Coleman. (15) Aug. 9.

Railroads—(Continued).

- Quick Service Between Buffalo and Niagara Falls.* (17) Aug. 10.
 15 000-Car Hump Yard near Chicago Planned by Illinois Central Railroad.* (13) Aug. 15.
 Completing Buildings on Time.* (15) Aug. 16.
 Labor Saving Appliances in Rail Renewing on the Chicago, Burlington & Quincy Railroad.* (18) Aug. 17.
 Southern Railroads and the Problem of Malaria Control. R. C. Derivaux. (18) Aug. 17.
 The Hubbard Automatic Switch Lock.* (18) Aug. 17.
 Ten-Wheel and Mikado Type Locomotives for the Paris-Orleans Ry.* F. C. Coleman. (18) Aug. 24.
 La Contre-Vapeur, sa Puissance, son Emploi Actuel.* Herdner. (32) June, 1917.
 Le Conducteur de Retour du Courant de Traction sur le Réseau à Courant Alternatif Monophasé de la Compagnie des Chemins de Fer du Midi. J. L. Héraud. (32) Oct., 1917.
 Etude sur la Fabrication des Centres de Roues de Wagons par l'Emploi d'un Laminoir à Cinq Cylindres.* Leon Geuze. (93) Nov., 1917.
 Etude sur la Fabrication des Bandages de Roues de Wagons et de Locomotives.* Léon Geuze. (93) Nov., 1917.
 Etude sur la Fabrication des Essieux de Wagons et de Locomotives.* Léon Geuze. (93) Nov., 1917.
 Les Locomotives Electriques des Chemins de Fer Américains.* P. Letheule. (33) July 6.
 Quelques Opinions allemandes sur le Tunnel sous la Manche.* A. Goupil. (33) July 13.
 Das Urteil über die Energierückgewinnung bei elektrischen Bahnen angesichts der technischen Fortschritte.* W. Kummer. (107) May 4.
 Die elektr. Schmalspurbahn Biel-Täuffelen-Ins.* R. Walther. (107) June 8.
 Der Lokomotiv-Zweistandgenantrieb von einem Motor aus, auf Zwei Blindwellen.* W. Kummer. (107) July 6.

Railroads, Street.

- Opening a New Link of New York's Vast Subway System.* (46) July 27.
 Some Lessons from a Disastrous Carhouse Fire.* (17) Aug. 10.
 Forces Acting Directly or Indirectly Upon the Truck Side Frame. Norman Litchfield. (17) Aug. 17.
 Will a Cushioned Gear Save Power in Car Operation? G. W. Remington. (17) Aug. 17.
 A Track Puller for Paved Streets.* Thomas W. Bulpin. (17) Aug. 17.
 Special Track Work for Street Railways.* J. V. Hunter. (72) Aug. 22.
 Der Umbau von Rollenkontakt auf Bügelkontakt bei der Städtischen Strassenbahn Zurich.* U. Winterhalter. (107) May 11.

Roads and Pavements.

- Condition of Creosoted Wood-Block Pavements in Mobile, Ala., Shreveport, La., and a Number of Texas Cities.* C. H. Teesdale. (113) Jan.
 Experimental Sections of Concrete Roads. H. T. Chapman. (114) Feb.
 Pot-Holes and Their Remedy. E. Purnell Hooley. (114) Feb.
 Road Construction and Maintenance in the Tropics.* Henry Edward Goldsmith. (114) Mar.
 Snow Removal. Harry Richards. (4) Mar.
 Road Construction in a Town Planning Area. P. C. Smith. (114) Apr.
 Who Pays for Resurfacing Pavements? (96) July 25.
 Experiences in Force Account Paving in the City of St. Paul, Minn. Oscar Claussen. (60) Aug.
 How to Get the Best Surface on a Concrete Road. A. H. Hunter. (60) Aug.
 The Action of Water on the Road Subgrade and Its Relation to Road Drainage. J. L. Harrison. (60) Aug.
 Construction of Concrete Pavements.* J. L. Harrison. (117) Aug. 1.
 Impervious Bituminous Wall Suggested to Prevent Seepage Under Paving.* John W. Lowell. (Abstract of paper read before Am. Concrete Inst.) (13) Aug. 1.
 What the Road Really Costs. Geoffrey De Holden-Stone. (From *Auto-Motor Journal*.) (19) Aug. 3.
 Concrete Road Construction During Freezing Temperatures. (86) Aug. 7.
 Recent Practice in Construction of Tar Surfaces and Pavements. Arthur H. Blanchard. (Abstract of paper read before Canadian Good Roads Cong.ess.) (86) Aug. 7.
 Bituminous Surfaces on Macadam Roads in York County, Ontario. E. A. James. (Abstract of paper read before Ontario Road Superintendents.) (86) Aug. 7.
 Method of Building Earth Roads in Kane County, Illinois.* George N. Lamb. (86) Aug. 7.

* Illustrated.

Roads and Pavements—(Continued).

- Notes on Gravel Road Construction. H. E. Phelps. (From *Journal of Engineering, Univ. of Colorado.*) (86) Aug. 7.
 Cracking of Concrete Roads and Its Prevention by Reinforcing with Steel. W. B. Sawyer, Jr. (From *Western Engineering.*) (86) Aug. 7.
 Cost Keeping System for County Highway Work. H. A. Sewell. (Abstract of paper read before Washington Assoc. of County Engrs.) (86) Aug. 7; (96) Aug. 22.
 Engineers Advocate Hard Paving on Steep Grade Streets.* (13) Aug. 15.
 Methods of Financing for Good Roads. W. H. Greene. (Paper read before Eng. Inst. of Canada.) (96) Aug. 15.
 Standard Practice in Concrete Culvert Construction.* H. Collin Campbell. (117) Aug. 15.
 Roads in Base Section of American Forces Require Widening and Resurfacing.* Robert K. Tomlin, Jr. (13) Aug. 22.
 Resurfacing Reduced by Patrol System on Boulevards.* Ralph R. Benedict. (13) Aug. 29.

Sanitation.

- Municipal Piggeries.* Oswald A. Bridges. (114) Mar.
 The Dust-Bins of Greater London. Reginald Brown. (114) Apr.
 Sanitation in War Fields "Over There." (111) July 26
 The Worcester, England, Experiments with Activated Sludge Process. (From *Surveyor and Municipal and County Engr.*) (86) July 31.
 Design and Construction of the New Sewage Treatment Plant at Sedalia, Mo.* Robert E. McDonnell. (60) Aug.
 Sprinkling Filter System and Auxiliaries vs. the Activated Sludge Process. T. Chalkley Hatton. (60) Aug.
 Refuse Collection and the Present Demand for Garbage. Samuel A. Greeley. (60) Aug.
 Design Details of Proposed Works for the Collection and Disposal of Sewage at Pottstown, Pa. Charles E. Collins. (60) Aug.
 Novel Sewerage System and Sewage Treatment Plant at Mt. Horeb, Wis.* W. G. Kirchoffer. (60) Aug.
 Estimating for and Constructing Septic Tanks.* G. W. T. (101) Aug. 2.
 Operating Rules for Small Sewage Treatment Plants. J. H. Dunlap. (Abstract of paper read before Iowa Eng. Soc.) (86) Aug. 14.
 The Deoxygenating Effect of the Effluent from the Miles Acid Process of Sewage Treatment.* F. W. Mohlman. (86) Aug. 14; (13) Aug. 1.
 Americans Build Sewer and Water Systems for Three Uruguayan Cities.* Albert A. Northrop. (13) Aug. 29.
 Les Compteurs Calorimétriques ou Compteurs de Chaleur. R. Joëssel. (33) Serial beginning July 6.

Structural.

- Causes and Prevention of Failure in Creosoted Wood-Block Factory Floors. Lambert T. Ericson. (113) Jan.
 Timber Industry.* Percy Groom. (29) July 5.
 Influence of Substances on Cement and Concrete. J. C. Wilt. (117) July 15.
 Test of Flat Slab Floor. (96) July 18.
 Relative Resistance of Various Hardwoods to Injection with Creosote.* Clyde H. Teesdale and J. D. Maclean. (*Bulletin 606*, U. S. Dept. of Agriculture.) (18) July 20.
 The Core Type of Reinforced Concrete Floor Construction.* A. H. Bromley. (Abstract of paper read before Am. Concrete Inst.) (86) July 24.
 Present Knowledge of the Setting Action of Cement and Plasters. (86) July 24.
 The Basic Principle of Concrete Mixes and the Truly Fundamental Role Played by Water. Duff A. Abrams. (From *Concrete Highway Magazine.*) (86) July 24.
 Effect of Time of Mixing on the Strength of Concrete.* Duff A. Abrams. (96) Serial beginning July 25.
 Tall Chimneys in Metallurgical Plants.* (16) July 27.
 Volumes of Cylindrical Tanks. M. W. Ward. (64) July 30.
 Boiler House as Stack Foundation.* L. C. Huff. (64) July 30.
 Wood in the Construction of Mill Buildings.* W. Kynoch. (96) Aug. 1.
 Problems in Devising a New Finish for Concrete.* John J. Earley. (117) Aug. 1.
 Some Tests on the Effect of Age and Condition of Storage on the Compressive Strength of Concrete. Harrison F. Gonnerman. (Paper read before Am. Concrete Inst.) (96) Aug. 8.
 The Heat Transmission of Standard Building Materials. A. C. Willard. (Paper read before Am. Soc. of Heating and Ventilating Engrs.) (101) Aug. 9.
 Company Residences for Railroad Employees, C. B. & Q. R. R.* (18) Aug. 10.

* Illustrated.

Structural—(Continued).

- The New Portland Municipal Elevator.* Henry Blood. (117) Aug. 15.
 Small Concrete Icehouses.* (117) Aug. 15.
 Co-ordination Saves Six Weeks' Construction Time on Big Building.* (13) Aug. 15.
 English and Canadian Concrete Regulations. W. W. Pearse. (96) Aug. 15.
 Completing Buildings on Time.* (15) Aug. 16.
 Finding the Contents of a Horizontal Cylindrical Tank. Franz Szabo. (64) Aug. 20.
 A Comparison of Pile Bearing Formulas. (86) Aug. 21.
 The Opportunities for Safety Engineering in Construction Work. David Van Schaack. (Abstract of paper read before Connecticut Soc. of Civ. Engrs.) (86) Aug. 21.
 Relation of Stone Aggregate Content to the Compressive Strength of Concrete. Llewellyn N. Edwards. (96) Aug. 22.
 Long-Span Concrete Beams Should Have Fixed Ends. W. S. Tait. (13) Aug. 22.
 Framing Plans Simplify Fieldwork on Cincinnati High School.* John T. Sullivan. (13) Aug. 22.
 Notes on Office Building Design. Edward A. Renwick. (Abstract of paper read before National Assoc. of Building Owners and Managers.) (86) Aug. 28.
 Practical Points in the Design and Construction of Partitions. H. L. Barraclough. (86) Aug. 28.
 Pre-Cast Concrete Industrial Houses.* (86) Aug. 28.
 Cost Plus Contracts. P. B. Glasco. (86) Aug. 28.
 Action de l'Eau de Mer sur les Ouvrages en Béton Exposés aux Marées. (32) Jan.
 Les Pieux en Béton Armé; Observations sur leur Emploi aux Pays-Bas.* Alfred Bijls. (33) July 6.
 Pouvoir Porteur et Flambage des Pieux de Fondation.* L. Robert de la Mahotière. (33) July 20.
 Die Schweiz. Werkbund-Ausstellung in Zürich.* (107) Serial beginning July 6.
 Wohnkolonie Hinzelfhof in Grenchen, der Uhrenfabrik A. Schild A. G.* (107) July 13.

Topographical.

- Determination of Latitude and the Meridian.* Q. C. Callen. (45) July 25.
 Topographical Surveys in Connection with Rural Planning. W. H. Norrish. (Extract from paper read before Assoc. of Dominion Land Surveyors.) (96) Aug. 22.

Water Supply.

- The Ystradfellte Water Works.* D. M. Davies. (114) Nov., 1917.
 Lead Wool. R. J. Thomas. (59) Mar.
 Leakage from Vitrified Pipe Used to Convey Water Under a Low Head.* William W. Brush. (59) Mar.
 Water Supply Standards and Their Improvement. William J. Orchard. (59) Mar.
 Leaks from High Pressure Fire Service Mains. Henry B. Machen. (59) Mar.
 The Differentiation of Bacteria of the Colon-Aerogenes Family. William Mansfield Clark. (59) Mar.
 Chlorination and Chloramine. Joseph Race. (59) Mar.
 The Catskill Water Supply System. J. Waldo Smith. (59) June.
 The Water Works at Camp Grant. Charles B. Burdick. (59) June.
 Centrifugal Pumps. E. C. York. (59) June.
 Methods of Determining and Plotting Meter Capacities and Some Results. Fred B. Nelson. (59) June.
 American Water Works Laboratories. Jack J. Hinman, Jr. (59) June.
 Metallum.* Homer V. Knouse. (59) June.
 Notes on the Presumptive Test for *B. Coli*. Max Levine. (59) June.
 Prices and Depreciation of Cast Iron Pipe. Burt B. Hodgman. (59) June.
 New Design of Screen Chamber.* John H. Lance. (59) June.
 Modern Development of Large Hydro-Electric Power Schemes. C. Fred. Holmboe. (73) June 21.
 Plant Extensions of Public Utilities Financially Considered. John W. Ledoux. (2) July; (24) July.
 Algae Growths Increase Value of n in Kutter's Formula.* Paul Taylor. (13) July 25.
 International Water Softener.* (64) July 30.
 Increasing the Well Water Supply of Montgomery, Alabama. A. O. Beauchemin. (60) Aug.
 Performance of New Air-Lift Pumping Plant at Galesburg, Ill.* (60) Aug.
 Recent Developments in Reinforced Concrete Pressure Pipe for Water Supply Lines.* Wallace R. Harris. (60) Aug.
 Design and Construction of the New Water Purification Plant and Pumping Station at Checotah, Okla.* V. V. Long. (60) Aug.

* Illustrated.

Water Supply—(Continued).

- The Use of Vitriified Clay Pipe for Irrigation Lines.* V. E. Piolet. (60) Aug.
Fully Metered Plant Treats Highly Turbid Arkansas for Tulsa.* (13) Aug. 1.
Facing Leaky Rock Fill Dam with Timber Planks.* George M. Bull. (13)
Aug. 1.
Lindsay-Strathmore Irrigation Project.* Stephen E. Kleffer. (117) Aug. 1.
Chemical and Bacteriological Examination of the London Waters. A. C. Houston.
(96) Aug. 1.
The Choice of Material for Pressure Pipes.* Ralph Bennett. (111) Aug. 1.
California's Test for *B. Coll.* C. G. Gillespie. (96) Aug. 1.
Pumping Equipment at Thoroid.* W. L. Adams. (96) Aug. 8.
The 7 000-Foot Tunnel at Lahaina, Hawaii.* Fr. Koelling. (103) Aug. 10.
Border Method of Irrigation for Porous Soils. R. W. Allen. (86) Aug. 14.
Special Cast Iron Lining of Two Large Bore Wells.* W. H. Maxwells. (From
Water and Engineering.) (86) Aug. 14.
Engineering and Construction Features of West Side Irrigation District, Cali-
fornia. (Abstract of article in *Western Engineering.*) (86) Aug. 14.
Rural Community Water Supplies.* E. L. Miles. (Paper read before Eng. Inst.
of Canada.) (96) Aug. 15.
The New Conco Development.* C. B. Merrick. (111) Aug. 15.
The Stability Factor in Multiple Arch Design.* L. R. Jorgensen. (111) Aug. 15.
Stave Water Tanks Serve Multiple Purpose.* (117) Aug. 15.
Junction Development Power Plant.* (64) Aug. 20.
Advantages of the Storage of Water. Melville C. Whipple. (Abstract of paper
read before School of Public Health, Boston.) (96) Aug. 22.
Grouting Wells in Rock Formation Effective and Simple.* W. G. Kirchoffer.
(13) Aug. 22.
Land Reclamation Would Provide Work and Homes for Hosts of Veterans. Arthur
P. Davis. (13) Aug. 22.
Weighing Concrete Materials Saved Cement on Three Big Dams.* H. H. Hunt.
(13) Aug. 29.
Americans Build Sewer and Water Systems for Three Uruguayan Cities.* Albert
A. Northrop. (13) Aug. 29.
Discussion des Formules de Débit Déduites de la Loi Darcy-Dupuit.* J. H. Mulder.
(33) April 27.
Das Kraftwerk an den Vamma-Fällen in Norwegen.* (107) May 11.
Nutzbarmachung der Wasserkräfte im Thurgebiet.* (107) June 22.

Waterways.

- New Dry Dock at Quebec.* (118) July.
Construction of Concrete Dam in Hudson River at Troy, N. Y., 1916.* A. C.
Harper and others. (100) July.
The New York State Barge Canal.* (12) Serial beginning July 19.
Repair Washout Under Dam by Sheet Pile Cutoff Embedded in Concrete.* (13)
July 25.
Construction of the Pearl Harbor Drydock Completed.* (13) July 25.
Pile-Driving and the Supporting Power of Piles. Henry Adams. (From Abstract
in *Concrete and Constructional Engineering* of paper read before the Concrete
Inst.) (86) July 31.
American-Built Docks in France Completed by Pacific Coast Engineers.* Robert
K. Tomlin, Jr. (13) Aug. 1.
New Orleans Builds Inner Harbor and Navigation Canal.* (13) Aug. 15.
Levee Settlement: Cause and Remedy. (86) Aug. 21.
Making a Stream Build Its Own Check Dams.* Albert Marple. (13) Aug. 22.
Le Congrès des Ingénieurs à l'Exposition de San-Francisco et l'Achèvement du Canal
de Panama. L. de Pulligny. (32) May, 1917.
Haltbarkeit der Uferbauten in Bezug auf die Schleppkraft des fließenden Wassers.
A. v. Steiger. (107) July 27.

* Illustrated.